

## Section 18

### Communications

This section presents statistics relating to the usage, finances, and operations of the various communications and related media. Included are data concerning postal service, telephone, telegraph, radio, television, newspapers, and books. The principal sources of wire and wireless data are the Federal Communications Commission's annual *Statistics of Communications Common Carriers* (prior to 1957 titled *Statistics of the Communications Industry in the United States*), and *Annual Report*. Data concerning the postal service are included in the *Annual Report of the Postmaster General*. Statistics as to revenues, volume of mail, and the distribution of expenditures by classes of mail and services are presented in the Post Office Department's annual *Cost Ascertainment Report*. Statistics on number and circulation of newspapers and periodicals and on sales of books and pamphlets are issued by the Bureau of the Census in reports of the Census of Manufactures. Annual data on number and circulation of daily and Sunday newspapers appear in Editor and Publisher's *International Yearbook Number*. Monthly data on new books and new editions of books are presented by R. R. Bowker Company in *Publishers' Weekly*.

Since the establishment of the Federal Communications Commission in 1934, statistical coverage of wire and wireless communications has been concentrated in that agency. According to the Communications Act of 1934, as amended, only carriers engaged in interstate, or foreign, communications service by means of their own facilities (or through the facilities of another carrier under direct or indirect common control) are subject to the full jurisdiction of the Commission. The Commission requires the filing of annual and monthly reports by these carriers except from the smallest carriers. The companies controlling any but the smallest of these carriers are also required to file annual reports.

**Postal Service.**—"Cost ascertainment" is the term applied in the Post Office Department to describe its plan or system, partly accounting and partly statistical, for developing through the medium of a sampling procedure, data on the revenues, expenses, volumes, and average hauls fairly attributable to each of the several classes of mail handled by the Postal Service (first, second, third, fourth, foreign, penalty, franked, free for the blind, and air mail) and similar revenue, expense, and volume data for each of its special services (special delivery, money order, insurance, collect-on-delivery, registry, certified, and postal savings).

**Telephone and telegraph systems.**—Practically all of the wire-telegraph, ocean-cable, and radiotelegraph carriers are subject to the full jurisdiction of the Federal Communications Commission. A large number of telephone carriers engaged in interstate or foreign service only by connection with the facilities of another unaffiliated carrier are not subject to the full jurisdiction of the Commission. However, it is estimated that the gross operating revenues of the telephone carriers reporting annually cover over 90 percent of the revenues of all telephone carriers in the United States.

The term "system" is used, in general, for aggregations of lines operated by the larger companies, with appropriate intercompany duplications excluded. The "Bell System" consists of the American Telephone and Telegraph Co. and its Principal Telephone Subsidiaries.

**Broadcasting.**—The number of broadcast stations refers to the number licensed or holding construction permits. Total broadcast revenues are defined as total time sales of all networks and stations, less commissions to agencies and plus incidental revenues, such as sale of talent, program material, etc. Reports filed with the Fed-

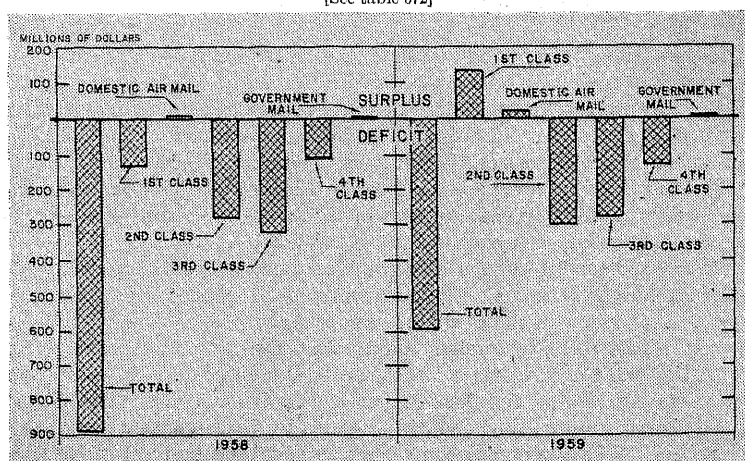
eral Communications Commission by broadcast stations and networks cover substantially all units in the industry which operate in the United States and its outlying areas.

**Alaska and Hawaii.**—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

**Historical statistics.**—Tabular headnotes (as "See also *Historical Statistics, Colonial Times to 1957*, series R 139-141) provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

FIG. XXIX. SURPLUS OR DEFICIT IN POSTAL REVENUES AND EXPENDITURES: 1958 AND 1959

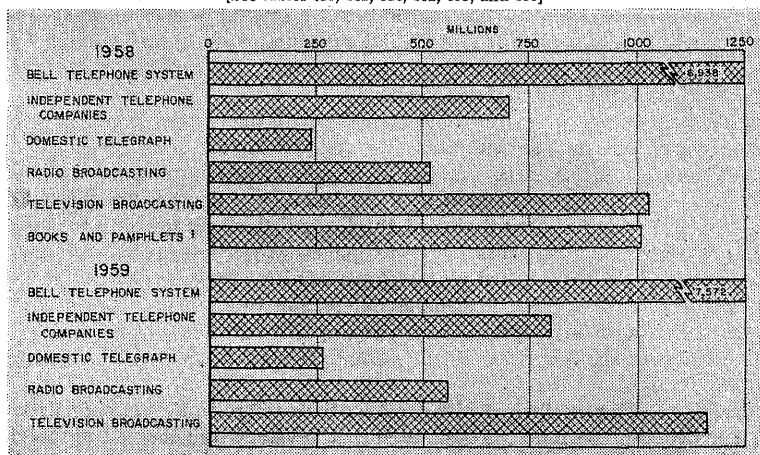
[See table 672]



Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from Post Office Department.

FIG. XXX. OPERATING REVENUES OF SELECTED COMMUNICATIONS MEDIA: 1958 AND 1959

[See tables 680, 681, 686, 692, 693, and 699]



<sup>1</sup> Represents receipts.

Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from American Telephone & Telegraph Company, United States Independent Telephone Association, Federal Communications Commission, and Bureau of the Census.

## No. 670. UNITED STATES POSTAL SERVICE—SUMMARY: 1900 TO 1960

[For years ending June 30. Includes Alaska, Hawaii, and outlying areas. See text, p. 501. See also *Historical Statistics, Colonial Times to 1897*, series R 139-141 and R 145]

YEAR	Number of post offices	FINANCES <sup>1</sup>			Revenue per capita	MONEY ORDERS ISSUED		Sales of postage stamps and other stamped paper	Postage paid under permit (1st, 2d, 3d, and 4th class)	Number of pieces of mail handled <sup>4</sup>
		Revenues	Expenditures <sup>2</sup>	Surplus (+) or deficit (—)		Domes- tic <sup>3</sup>	Inter- national			
		<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Dollars</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Mil. dol.</i>	<i>Millions</i>
1900-----	76,688	102	108	—5	1.34	239	17	94	-----	7,130
1905-----	68,131	163	167	—15	1.82	402	43	140	-----	10,188
1910-----	59,580	224	230	—6	2.43	558	90	202	-----	14,850
1915-----	56,380	287	299	—11	2.85	665	52	256	-----	8
1920-----	52,641	437	454	—17	4.11	1,342	23	380	-----	13
1925-----	50,957	600	639	—40	5.28	1,549	36	508	-----	25,835
1930-----	49,063	705	804	—98	5.75	1,735	52	575	-----	27,888
1935-----	45,686	681	697	—16	4.94	1,829	22	473	-----	22,332
1940-----	44,024	707	808	—41	5.84	2,103	13	522	-----	27,749
1945-----	41,792	1,314	1,145	+169	9.44	4,866	21	954	-----	37,912
1950-----	41,464	1,677	2,223	—545	11.14	5,165	16	862	-----	45,064
1951-----	41,193	1,777	2,341	—565	11.61	5,652	20	883	-----	46,908
1952-----	40,919	1,947	2,607	—720	12.50	5,946	27	948	-----	49,906
1953-----	40,609	2,092	2,742	—650	13.20	6,033	30	985	-----	50,948
1954-----	39,405	2,269	2,668	—399	14.08	6,048	33	999	-----	52,213
1955-----	38,316	2,340	2,712	—363	14.33	5,865	31	999	-----	55,234
1956-----	37,515	2,419	2,883	—464	14.50	5,926	32	1,010	-----	56,441
1957-----	37,012	2,497	<sup>5</sup> 3,044	<sup>5</sup> —548	14.70	5,880	31	1,013	-----	59,078
1958-----	36,308	2,550	3,441	—891	14.76	5,442	29	1,015	-----	60,130
1959-----	35,750	3,035	3,640	—605	17.28	5,158	26	1,243	-----	61,247
1960-----	35,238	3,277	3,874	—597	18.28	5,031	27	1,243	-----	63,675

<sup>1</sup> After allowance for reimbursements, embossed envelope purchases, indemnity claims, and miscellaneous revenue and expenditure offsets (see footnote 3, table 672). Revenues, expenditures, and deficits through 1953 on cash-disbursement basis, i.e., they include payments and receipts in a year applicable to prior years; beginning 1954, expenditures are shown in year in which obligation was incurred, and revenues in year which gave rise to the earnings, whether collected or accrued. During fiscal 1954, the Department began receiving reimbursement for penalty and franked mail, and discontinued payment of subsidies to airlines. These and other changes affect the comparability of the figures from year to year.

<sup>2</sup> Includes capital expenditures for plant and equipment and cost of materials and supplies, but no provision for depreciation is made. Also includes costs of certain services rendered to other agencies without reimbursement but excludes costs of certain services rendered to the Post Office Department by other agencies.

<sup>3</sup> Includes postal notes issued under act of Congress, 1945-1951.

<sup>4</sup> Data for years prior to 1930 are estimates.

<sup>5</sup> Expenditures and deficit for fiscal 1957 have been increased by \$26 million for retroactive increases in rail rates for eastern roads granted by the Interstate Commerce Commission in 1958.

Source: Post Office Department; *Annual Report of the Postmaster General and Cost Ascertainment Report*.

## No. 671. POSTAL SERVICE REVENUES, BY SOURCE: 1920 TO 1960

[In millions of dollars. For years ending June 30. Includes Alaska, Hawaii, and outlying areas. See text, p. 501]

ITEM	1920	1930	1940	1945	1950	1955	1958	1959	1960
Total-----	437	705	767	1,314	1,677	2,349	2,550	3,035	3,277
Ordinary postal revenue <sup>1</sup> -----	424	686	732	1,247	1,606	2,266	2,469	2,960	3,189
Stamps, postal cards, etc.-----	380	575	522	954	862	999	1,015	1,243	1,243
Second-class postage paid in money (pound rates) <sup>2</sup> -----	25	29	23	25	40	64	69	72	86
Other postage paid in money under permit <sup>3</sup> -----	13	74	177	252	678	1,136	1,303	1,537	1,701
Box rents-----	6	9	8	11	14	26	27	28	29
Miscellaneous <sup>4</sup> -----	1	1	3	4	11	41	55	81	130
Money-order revenues-----	10	17	24	47	63	66	71	67	81
Postal Savings System, income transferred to Post Office Department-----	2	2	11	21	8	18	10	8	7

<sup>1</sup> Net revenue after refunds of postage.

<sup>2</sup> Beginning 1950, includes fees; previously included with miscellaneous.

<sup>3</sup> Beginning 1955, includes controlled circulation publications.

<sup>4</sup> For 1960, includes \$37.4 million appropriated to postal revenues for public services as provided by the Postal Policy Act of 1958.

Source: Post Office Department; *Annual Report of the Postmaster General*.

# No. 672. POSTAL REVENUES AND EXPENDITURES, BY CLASS OF MAIL AND TYPE OF SERVICE: 1958 TO 1960

[In thousands of dollars. For years ending June 30. Includes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series R 146-160]

MAIL AND SERVICE	1958			1959			Revenues, 1960 <sup>2</sup>
	Revenues	Appor- tioned expendi- tures <sup>1</sup>	Excess of reve- nues (+) or ex- pendi- tures (-)	Revenues	Appor- tioned expendi- tures	Excess of reve- nues (+) or ex- pendi- tures (-)	
All operations.....	2,582,204	3,477,882	-895,678	3,077,031	3,682,148	-605,117	3,322,802
Net total.....	2,550,233	3,445,910	-895,678	3,035,251	3,640,368	-605,117	3,276,818
Deductions <sup>3</sup> .....	31,971	31,971		41,780	41,780		45,984
All mails and special services.....	2,580,654	3,459,306	-878,652	3,075,289	3,662,171	-586,882	3,320,724
Prepaid domestic mail.....	2,188,661	3,050,122	-861,461	2,654,882	3,224,698	-569,817	2,862,865
1st class.....	1,092,441	1,281,666	-139,225	1,438,733	1,803,383	-135,350	1,510,113
Domestic airmail.....	151,236	142,118	+9,118	173,979	152,524	+21,455	180,316
2d class.....	65,623	351,924	-286,301	69,081	372,537	-303,456	86,975
Controlled circulation publications.....	7,359	10,649	-3,290	6,826	9,849	-3,023	7,520
3d class.....	287,761	611,871	-324,110	390,645	677,726	-287,081	454,649
4th class (parcel post).....	584,243	701,894	-117,651	575,618	708,681	-133,063	623,292
Government mail.....	51,804	46,279	+5,525	68,451	60,106	+8,345	85,780
Penalty.....	49,545	41,580	+7,965	66,150	54,198	+11,952	82,458
Registry (official).....	1,922	1,922	-1,922	2,875	2,875	-2,875	
Franked.....	2,259	2,777	-518	2,301	3,033	-732	3,322
Free for the blind.....		1,171	-1,171		1,276	-1,276	1,137
International mail.....	88,228	96,858	-8,630	97,940	105,830	-7,889	103,277
Special services.....	243,505	257,717	-14,212	242,125	257,947	-15,822	253,477
Registry (paid).....	37,789	37,465	+324	38,623	37,553	+1,070	37,145
Certified mail.....	6,793	5,356	+1,437	7,649	5,918	+1,731	7,998
Insurance.....	25,671	22,497	+3,174	27,100	22,387	+4,713	27,431
Collect on delivery.....	13,181	22,765	-9,584	13,111	22,185	-9,074	12,778
Special delivery.....	35,212	42,606	-7,394	34,153	43,153	-9,000	34,169
Money orders.....	71,018	79,137	-8,119	67,089	78,801	-11,712	81,189
Postal savings.....	10,111	4,884	+5,227	8,084	4,180	+3,904	7,010
Box rent service.....	26,635	27,372	-737	27,877	25,671	+2,206	28,786
Stamped envelope service.....	17,094	15,733	+1,361	18,439	17,599	+840	16,971
Unassignable.....	8,457	7,159	+1,298	11,891	12,313	-422	14,188
Nonpostal services.....	1,550	18,576	-17,026	1,742	19,978	-18,235	2,078
Alien address reporting.....	239	239			256		256
U.S. savings bonds and stamps.....	617	752	-135	692	907	-214	871
Civil service.....		3,820	-3,820		5,327	-5,327	
Documentary stamps.....		303	-303		309	-309	
Migratory bird stamps.....	137	124	+13	152	147	+5	98
Official mail messenger service.....		227	-227		190	-190	
Custodial service (public bldgs.).....	410	12,961	-12,551	487	12,614	-12,127	423
Miscellaneous items, other agencies.....	147	150	-3	156	168	-12	430

<sup>1</sup> Includes computed Civil Service Retirement costs of \$5,100,000 included to effect comparability with subsequent years; effective July 13, 1957, the Department is required to reimburse the Civil Service Retirement Fund for such costs. Excludes \$26 million apportioned for retroactive increases in rail rates for eastern roads granted by Interstate Commerce Commission in 1958.

<sup>2</sup> Includes appropriated public service revenues, beginning in 1960.

<sup>3</sup> Includes reimbursements, embossed envelope purchases, indemnity claims, and miscellaneous revenues and expenditure offsets.

Source: Post Office Department; *Cost Ascertainment Report*.

## No. 673. PIECES OF MAIL RECEIVED PER CAPITA: 1945 TO 1960

[For years ending June 30. Includes Alaska and Hawaii]

ITEM	1945	1950	1953	1954	1955	1956	1957	1958	1959	1960
Major domestic mail received per capita.....	257	287	308	310	324	325	334	335	334	341
Letters (1st class and airmail).....	166	168	181	177	184	189	194	195	191	193
2d class.....	42	42	43	40	41	41	41	41	40	42
3d class.....	41	60	76	86	92	88	92	92	97	100
Parcels.....	8	8	8	7	7	7	7	7	6	6

Source: Post Office Department; *Annual Report of the Postmaster General and Cost Ascertainment Report*.

# Postal Service

505

## No. 674. CITY AND VILLAGE, RURAL, AND SPECIAL DELIVERY SERVICE: 1900 TO 1960

[As of June 30. Includes Alaska, Hawaii, and Puerto Rico]

YEAR	CITY AND VILLAGE DELIVERY			RURAL DELIVERY				SPECIAL DELIVERY	
	Number of offices	Number of regular carriers	Annual cost <sup>1</sup>	Number of routes	Length of routes	Annual travel	Annual cost	Number of specials	Cost of service <sup>2</sup>
			\$1,000		1,000 miles	1,000 miles	\$1,000	1,000	\$1,000
1900.....	796	15,322	14,512	1,259	29	993	420	5,192	
1910.....	1,492	28,715	31,684	41,079		303,007	36,915	15,440	
1920.....	2,729	37,085	74,933	43,445	1,152	348,627	75,795	68,818	
1930.....	3,813	54,705	146,532	43,278	1,335	404,738	106,338	101,770	
1940.....	4,020	59,407	161,185	32,646	1,402	424,704	91,441	96,381	12,058
1945.....	4,124	58,181	214,255	32,106	1,435	435,209	106,853	120,579	11,488
									16,521
1950.....	4,667	90,216	467,717	32,619	1,493	453,260	159,387	115,044	32,464
1951.....	4,707	84,944	459,619	32,513	1,487	451,250	168,856	124,594	34,066
1952.....	4,786	85,864	537,910	32,546	1,500	455,345	188,785	122,634	40,511
1953.....	4,851	87,537	541,250	32,542	1,513	459,307	192,066	114,158	34,193
1954.....	4,948	89,671	567,544	32,370	1,527	463,909	191,772	106,285	34,917
1955.....	5,032	91,418	601,051	32,076	1,545	469,283	194,945	105,289	37,573
1956.....	5,128	94,692	679,444	31,888	1,583	480,129	205,812	107,933	38,154
1957.....	5,277	97,284	714,553	31,669	1,586	481,009	209,064	110,865	38,704
1958.....	5,418	102,083	832,136	31,465	1,616	490,671	226,552	96,484	42,441
1959.....	5,528	106,285	875,473	31,377	1,735	527,158	245,003	92,831	43,153
1960.....	5,652	109,749	907,820	31,379	1,768	537,569	252,767	92,072	49,389

<sup>1</sup> Includes cost of motor vehicle service.

<sup>2</sup> Fees paid special messengers plus apportionment of other expenditures.

Source: Post Office Department; *Annual Report of the Postmaster General and Cost Ascertainment Report*.

## No. 675. POSTAL SERVICE EXPENDITURES, BY OBJECT: 1954 TO 1960

[In millions of dollars. For years ending June 30. Includes Alaska, Hawaii, and Puerto Rico. Data cover expenditures during specified year and include unliquidated obligations, whether on account of that year or of previous years. See text, p. 501]

OBJECT	1954	1955	1956	1957	1958	1959	1960
Total apportioned expenditures <sup>1</sup> .....	2,677	2,738	2,913	<sup>2</sup> 3,072	3,473	3,682	3,920
Post Office operations.....	2,180	2,266	2,430	2,543	2,847	3,046	3,170
Salaries and travel of postmasters and assistants <sup>3</sup> .....	242	249	266	278	319	361	378
Salaries and travel of clerks, etc.....	802	826	871	906	1,017	<sup>4</sup> 1,200	1,239
City delivery service.....	506	535	604	631	728	783	814
Rural delivery service.....	192	195	206	209	227	245	253
Postal transportation service.....	179	180	191	192	212	<sup>5</sup> 104	101
All other.....	259	281	291	327	344	353	385
Transportation of mails.....	467	429	433	<sup>2</sup> 468	492	508	535
Railroad.....	318	297	293	<sup>2</sup> 318	336	335	341
Star route.....	41	40	41	42	44	47	53
Short haul truck.....	8	9	10	12	13	14	17
Domestic water transportation.....	3	3	3	3	3	3	4
Highway post offices.....	3	4	5	5	6	6	7
Domestic airmail.....	47	34	35	38	40	44	49
Foreign airmail.....	31	27	30	31	33	41	43
Other foreign mail <sup>6</sup> .....	17	16	16	18	19	19	21
Claims and miscellaneous.....	7	6	6	6	7	7	8
General administration and overhead apportioned.....	24	38	45	55	127	120	207

<sup>1</sup> Before allowance for reimbursements, embossed envelope purchases, indemnity claims, and miscellaneous revenue and expenditure offsets (see footnote 3, table 672).

<sup>2</sup> Expenditures for 1957 have been increased by \$26 million for retroactive increase in rail rates for eastern roads granted by the Interstate Commerce Commission in 1958.

<sup>3</sup> Includes supervisors.

<sup>4</sup> Includes stationary postal transportation service employees.

<sup>5</sup> Mobile units only.

<sup>6</sup> Includes terminal and transportation charges by foreign countries.

Source: Post Office Department; *Cost Ascertainment Report*.

## No. 676. POST OFFICE MAIL, BY CLASSES: 1950 TO 1960

[For years ending June 30. Includes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series R 145-160]

CLASS OF MAIL	1950	1955	1956	1957	1958	1959	1960
PIECES OF MAIL (1,000,000)							
All mail.....	45,064	55,234	56,441	59,078	60,130	61,247	63,675
Domestic.....	44,646	54,722	55,907	58,519	59,595	60,694	63,115
1st class.....	24,500	28,713	30,078	31,561	32,218	32,274	33,235
Airmail.....	853	1,467	1,487	1,483	1,435	1,308	1,356
2d class.....	6,265	6,740	6,915	6,888	7,148	7,099	7,534
3d class.....	10,343	15,050	14,676	15,702	15,849	16,978	17,910
4th class (parcel post).....	1,179	1,136	1,173	1,184	1,170	1,038	1,016
Publications <sup>1</sup> .....		85	102	125	145	126	125
Penalty.....	1,472	1,480	1,412	1,510	1,560	1,721	1,826
Franked.....	32	48	61	61	67	86	109
Free for blind.....	2	3	4	4	4	4	4
International.....	417	512	534	559	534	553	560
Regular mail <sup>2</sup> .....	190	235	224	240	224	215	212
Parcel post.....	9	8	8	9	8	9	9
U.S.A. gift parcels.....	12						
Publishers' 2d class.....	85	110	124	120	120	138	145
Airmail <sup>2</sup> .....	121	157	177	188	181	190	193
Air parcel post.....	1	1	1	1	1	1	1
WEIGHT OF MAIL (1,000,000 pounds)							
All mail.....	11,521	10,844	10,929	11,071	11,119	11,332	11,689
Domestic.....	11,176	10,668	10,758	10,893	10,945	11,150	11,500
1st class.....	620	804	874	905	921	920	955
Airmail.....	53	85	91	95	92	97	103
2d class.....	2,287	2,582	2,703	2,716	2,695	2,708	2,883
3d class.....	646	892	915	949	988	1,156	1,277
4th class (parcel post).....	7,370	6,035	5,904	5,931	5,861	5,887	5,879
Publications <sup>1</sup> .....		44	53	63	69	58	63
Penalty.....	183	201	194	206	289	291	305
Franked.....	5	5	5	5	6	8	9
Free for blind.....	12	20	20	23	24	25	26
International.....	345	177	171	179	174	182	189
Regular mail <sup>2</sup> .....	25	33	31	33	33	31	36
Parcel post.....	95	82	75	82	76	70	77
U.S.A. gift parcels.....	177						
Publishers' 2d class.....	43	54	57	55	57	63	66
Airmail <sup>2</sup> .....	4	6	6	7	6	7	7
Air parcel post.....	1	1	2	2	2	2	3

<sup>1</sup> Included with 3d and 4th class for 1950. <sup>2</sup> Comprises letters, cards, and other articles.

Source: Post Office Department; *Cost Ascertainment Report*.

## No. 677. POST OFFICE EMPLOYEES, BY TYPE: 1940 TO 1960

[As of June 30. Includes Alaska and Hawaii. Beginning 1945, figures include classified and war-service regular employees of all activities. See also *Historical Statistics, Colonial Times to 1957*, series R 161, for total employees]

TYPE	1940	1945	1950	1955	1958	1959	1960
Total <sup>1</sup> .....	353,156	435,955	500,578	511,613	538,416	549,951	562,868
Full time.....	266,076	278,442	363,774	366,901	392,599	402,776	408,987
Departmental (bureaus and offices).....	1,431	1,526	1,775	1,530	1,329	1,389	1,481
Regional <sup>2</sup> .....				2,599	6,277	6,094	6,491
Postmasters.....	44,093	41,792	41,464	38,316	36,221	35,595	35,165
Post Office supervisors <sup>3</sup> .....	2,701	3,420	3,540	20,607	23,268	25,930	27,070
Post Office clerks and mail handlers <sup>4</sup> .....	82,910	93,941	141,092	128,457	138,264	171,018	171,914
City carriers <sup>5</sup> .....	59,407	58,181	90,216	91,418	102,083	106,285	109,749
Rural carriers.....	32,570	32,031	32,553	32,022	31,411	31,296	31,296
Postal transportation.....	20,087	20,546	27,126	20,224	29,066	(9)	(9)
Custodial service.....	17,328	18,606	15,743	13,338	13,895	14,373	14,969
All other.....	5,549	8,399	10,265	9,390	10,795	10,796	10,852
Part time (field).....	87,080	157,513	136,804	144,712	145,817	147,175	153,881

<sup>1</sup> 40-hour workweek for full-time field employees.

<sup>2</sup> Comprises regional office and disbursement personnel, money order center, and supply center personnel, and beginning 1958, mailbag repair center and mailbag depository personnel formerly reported under Post Office clerks and mail handlers. 1960 includes mail equipment shops, cartography, and equipment examiners formerly reported under "All other."

<sup>3</sup> Through 1950, assistant postmasters only.

<sup>4</sup> Through 1950, includes Post Office supervisors.

<sup>5</sup> Includes village carriers through 1955.

<sup>6</sup> Included in Post Office clerks and mail handlers, and in Post Office supervisors.

Source: Post Office Department; *Annual Report of the Postmaster General*.

# No. 678. POST OFFICES, 1959 AND 1960, AND GROSS RECEIPTS, 1930 TO 1957, BY STATES AND FOR OTHER AREAS

[For years ending June 30, except as noted]

STATE OR OTHER AREA	NUMBER OF POST OFFICES		GROSS POSTAL RECEIPTS (\$1,000) <sup>1</sup>					
	1959	1960	1930	1940	1945	1950	1955	1957 <sup>2</sup>
<b>Grand total</b> .....	35,750	35,238	686,037	728,679	1,241,771	1,600,736	2,264,226	2,410,198
<b>United States</b> .....	35,630	35,118	685,492	727,822	1,239,233	1,598,044	2,259,378	2,405,061
<b>New England</b> .....	2,089	2,068	51,375	54,022	77,245	112,173	151,063	158,444
Maine.....	608	599	3,912	3,925	5,834	6,765	8,420	8,763
New Hampshire.....	300	297	2,286	2,718	3,815	5,203	7,772	7,655
Vermont.....	325	323	1,703	1,846	2,406	3,239	4,088	4,391
Massachusetts.....	525	519	29,627	29,796	42,120	63,032	82,787	86,064
Rhode Island.....	62	62	3,297	3,514	5,970	7,961	11,056	11,181
Connecticut.....	269	268	10,550	12,224	17,100	25,972	36,940	40,390
<b>Middle Atlantic</b> .....	4,449	4,394	194,927	195,685	324,915	437,889	604,509	642,197
New York.....	1,768	1,757	125,072	120,888	210,835	275,433	375,582	395,229
New Jersey.....	564	553	19,768	23,207	35,122	53,059	80,720	91,047
Pennsylvania.....	2,117	2,084	50,087	51,590	78,958	109,397	148,207	155,921
<b>East North Central</b> .....	5,169	5,121	175,748	180,346	259,051	372,050	521,177	552,970
Ohio.....	1,188	1,160	42,088	41,668	62,071	86,039	122,691	129,902
Indiana.....	833	823	15,613	16,810	26,745	35,755	50,291	55,726
Illinois.....	1,372	1,365	78,757	79,257	104,724	157,303	216,168	228,285
Michigan.....	938	933	24,133	26,870	42,109	58,635	84,707	88,601
Wisconsin.....	838	831	15,167	15,740	23,402	34,318	47,320	50,456
<b>West North Central</b> .....	5,580	5,525	80,641	76,171	111,234	155,302	209,681	219,626
Minnesota.....	951	943	17,614	17,600	24,886	35,556	48,715	52,119
Iowa.....	1,033	1,026	13,504	12,912	18,631	25,354	34,861	36,511
Missouri.....	1,160	1,142	28,088	25,806	37,617	56,684	75,156	78,010
North Dakota.....	544	540	2,721	2,747	3,583	4,579	5,577	5,760
South Dakota.....	482	476	2,750	2,614	3,686	4,663	6,019	6,176
Nebraska.....	613	608	7,279	6,925	10,897	13,704	18,522	19,085
Kansas.....	797	790	7,785	7,569	12,633	14,763	20,831	21,965
<b>South Atlantic</b> .....	5,666	5,541	52,293	65,939	124,543	150,838	222,678	237,673
Delaware.....	61	61	1,233	1,769	2,574	3,727	5,502	5,702
Maryland.....	493	486	8,519	9,435	15,328	19,877	27,180	28,679
Dist. of Columbia.....	1	1	6,047	8,242	18,637	19,731	27,352	27,672
Virginia.....	1,281	1,228	7,985	9,617	18,013	21,198	29,681	31,245
West Virginia.....	1,300	1,267	4,611	5,142	8,725	9,349	12,164	12,560
North Carolina.....	845	835	6,830	9,407	19,175	23,247	31,324	32,940
South Carolina.....	437	435	2,174	2,832	4,897	6,656	13,020	13,816
Georgia.....	723	714	9,220	10,630	18,631	23,812	36,052	37,686
Florida.....	525	514	5,674	8,875	18,661	23,242	40,403	47,473
<b>East South Central</b> .....	3,637	3,575	23,736	26,881	49,905	58,411	84,504	89,191
Kentucky.....	1,668	1,643	6,827	7,304	12,472	14,804	21,399	22,309
Tennessee.....	668	651	8,546	9,796	17,528	22,629	32,112	33,960
Alabama.....	754	738	5,108	5,961	11,691	13,118	19,685	21,163
Mississippi.....	557	543	3,255	3,820	7,914	7,860	11,308	11,769
<b>West South Central</b> .....	3,840	3,797	37,240	42,606	81,886	98,003	144,480	156,973
Arkansas.....	809	795	3,828	4,115	7,995	8,441	11,048	11,638
Louisiana.....	598	593	5,486	6,684	13,778	14,781	21,272	23,404
Oklahoma.....	1,710	1,718	7,272	7,375	13,032	14,720	20,862	22,392
Texas.....	1,710	1,691	20,654	24,433	47,080	60,061	91,298	99,539
<b>Mountain</b> .....	2,524	2,480	17,276	19,778	32,171	41,878	64,189	70,004
Montana.....	462	439	2,446	2,813	3,682	4,856	6,555	6,899
Idaho.....	332	321	1,513	1,878	2,815	3,597	5,180	5,515
Wyoming.....	227	222	993	1,189	1,811	2,302	3,169	3,261
Colorado.....	479	475	6,819	7,158	10,701	14,801	22,688	24,634
New Mexico.....	406	404	1,089	1,631	2,997	3,881	6,227	6,931
Arizona.....	244	242	1,532	1,990	4,228	5,460	9,305	10,920
Utah.....	269	266	2,347	2,434	4,591	5,487	8,249	8,808
Nevada.....	115	111	537	686	1,345	1,495	2,816	3,036
<b>Pacific</b> .....	2,676	2,617	52,256	66,393	178,282	171,500	257,097	277,983
Washington.....	589	583	8,719	9,964	21,402	23,370	32,165	33,572
Oregon.....	456	431	5,436	6,719	11,152	15,591	21,201	22,198
California.....	1,328	1,305	37,223	48,060	122,589	127,622	195,658	213,698
Alaska.....	213	2.5	104	170	413	962	2,467	2,897
Hawaii.....	85	83	774	1,480	22,726	3,955	5,603	6,018
<b>Other</b> .....	120	120	545	858	2,537	2,691	4,848	5,137
Puerto Rico.....	105	105	527	809	2,459	2,415	4,260	4,569
Virgin Islands.....	5	5	15	36	48	76	205	267
Other areas <sup>3</sup> .....	10	10	3	13	(4)	201	393	301

<sup>1</sup> Excludes revenues from money-order business, postal savings, and certain miscellaneous items.

<sup>2</sup> Calendar year.

<sup>3</sup> Comprises Canton Island, Guam, Samoa (Tutuila), and Wake, Caroline, Mariana, and Marshall Islands.

<sup>4</sup> Less than \$500.

Source: Post Office Department; *Annual Report of the Postmaster General*, and records.

## No. 679. TELEPHONES, CALLS, AND RATES: 1930 TO 1960

[As of December 31, except toll rates. Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series R 1-13]

ITEM	1930	1935	1940	1945	1950	1955	1959	1960
Telephones.....1,000.....	20, 103	17, 424	21, 028	27, 867	43, 004	56, 243	70, 558	74, 057
Total per 1,000 population.....	182.6	136.4	165.1	198.1	280.9	337.2	395.3	408.1
Bell companies 1.....1,000.....	15, 983	14, 280	18, 311	23, 547	36, 795	48, 028	60, 110	62, 989
Dial operated 1.....do.....	4, 932	6, 758	10, 915	15, 180	27, 893	41, 788	57, 606	61, 144
Independent companies.....do.....	4, 120	3, 144	3, 617	4, 320	6, 209	8, 215	10, 447	11, 068
Average daily conversations (1,000):								
Bell companies 1 2.....	66, 618	62, 721	82, 367	94, 214	144, 999	173, 858	214, 040	225, 385
Local 1.....	63, 637	60, 417	79, 515	89, 362	138, 881	166, 438	204, 491	215, 317
Long distance 1 2.....	2, 981	2, 304	2, 852	4, 852	6, 118	7, 420	9, 549	10, 068
Independent companies 2.....	16, 902	13, 279	16, 942	18, 970	30, 295	39, 417	53, 091	56, 817
Local.....	16, 588	13, 023	16, 434	18, 022	29, 078	37, 978	51, 344	54, 942
Long distance 2.....	314	256	508	948	1, 217	1, 439	1, 747	1, 875
Toll rates in effect, from New York City to: 3								
Philadelphia.....	\$0.50	4 \$0.50	\$0.45	\$0.45	\$0.45	\$0.50	\$0.50	\$0.50
Chicago.....	3.00	4 2.50	1.90	1.75	1.55	1.50	1.45	1.45
Denver.....	6.00	4 5.25	3.25	2.35	2.20	2.20	1.95	1.80
San Francisco.....	9.00	4 7.50	4.00	2.50	2.50	2.50	2.25	2.25

1 Comprises American Telephone and Telegraph Company and its Principal Telephone Subsidiaries, which constitute the Bell Telephone System, plus Southern New England and Cincinnati and Suburban Bell Telephone Companies, together with telephones serviced by these companies.

2 Includes messages originating in independent company areas routed in part over Bell facilities.

3 Source: Federal Communications Commission. Represents rate for station-to-station, daytime, 3-minute call.

4 For 1936.

Source: American Telephone and Telegraph Company, New York, N.Y., except as noted; compiled from annual reports of A. T. & T. Co. and its Principal Telephone Subsidiaries, and Southern New England and Cincinnati and Suburban Companies, and other records.

## No. 680. BELL TELEPHONE COMPANIES—SUMMARY: 1930 TO 1960

[As of December 31. Excludes Alaska and Hawaii. Comprises American Telephone and Telegraph Company and its Principal Telephone Subsidiaries, which constitute the Bell Telephone System, plus Southern New England and Cincinnati and Suburban Bell Telephone Companies. See also *Historical Statistics, Colonial Times to 1957*, series R 14-27]

ITEM	1930	1935	1940	1945	1950	1955	1959	1960
Central offices, number.....	6, 770	7, 028	7, 189	7, 523	8, 656	9, 958	10, 987	11, 212
Miles of wire 1.....1,000.....	75, 567	80, 439	91, 274	101, 813	144, 256	201, 235	282, 287	307, 876
Percent total wire mileage in cable.....	92.0	95.2	95.8	96.0	96.6	97.4	97.7	97.8
Miles of coaxial tube.....				10, 146	62, 741	78, 547	94, 093	96, 783
Miles of microwave radio relay, broad band 1-way channel.....					7, 517	125, 438	252, 652	298, 091
Book value of plant (cost) \$1,000,000.....	4, 149	4, 305	4, 887	5, 865	10, 375	15, 773	22, 819	24, 722
Depreciation and amortization reserves.....do.....	743	1, 072	1, 397	2, 108	2, 905	4, 007	5, 085	5, 402
Operating revenues.....do.....	1, 115	947	1, 206	1, 979	3, 342	5, 425	7, 572	8, 111
Local exchange.....do.....	738	647	811	1, 073	1, 997	3, 168	4, 362	4, 665
Toll.....do.....	347	276	361	845	1, 208	2, 000	2, 843	3, 058
Operating expenses 2.....do.....	862	734	913	1, 455	2, 653	4, 040	5, 235	5, 686
Federal income taxes.....do.....	22	21	64	259	248	644	1, 080	1, 172
Interest expense.....do.....	67	53	43	47	115	134	227	263
Net income.....do.....	195	148	224	188	367	697	1, 171	1, 279
Dividends declared 3.....do.....	157	184	180	188	263	484	731	770
Employees, number.....	326, 593	248, 032	282, 224	396, 507	534, 751	629, 773	597, 107	594, 860
Wages and salaries.....\$1,000,000.....	538	391	522	911	1, 742	2, 631	3, 138	3, 283

1 Excludes drop and block wire.

2 Includes operating taxes other than Federal income.

3 Includes dividends on all minority holdings of preferred and common stocks, but excludes intercompany dividends.

Source: American Telephone and Telegraph Company, New York, N.Y.; compiled from annual reports of A. T. & T. Co., and its Principal Telephone Subsidiaries, and Southern New England and Cincinnati and Suburban Companies, and other records.



## No. 681. INDEPENDENT TELEPHONE COMPANIES—SUMMARY: 1935 TO 1959

[Includes reporting companies in Alaska, Hawaii, and beginning 1950, Puerto Rico. Covers only those companies submitting operating information to the U.S. Independent Telephone Association; in 1958, reporting companies represented 83 percent of the independent telephones in service. See also *Historical Statistics, Colonial Times to 1957*, series R 28-42]

ITEM	1935	1940	1945	1950	1955	1958	1959
Reporting companies, number	202	218	225	379	406	504	533
Number of telephones (incl. service telephones)							
1,000..	1,762	2,194	2,974	4,907	6,750	8,434	9,032
Miles of wire <sup>1</sup> .....	(2)	(2)	5,637	9,176	15,201	22,667	25,188
Telephone plant in service, book value..\$1,000,000..	343	375	432	878	1,655	2,609	2,968
Depreciation reserves.....	67	85	138	203	326	461	522
Operating revenues.....	61	81	135	270	503	704	801
Local exchange.....	46	60	84	171	329	460	519
Toll.....	13	19	48	92	155	217	254
Operating expenses <sup>2</sup> .....	44	61	93	211	354	503	560
Federal income taxes.....	(2)	(2)	20	19	61	76	94
Interest expense.....	7	6	6	12	22	43	48
Net income.....	9	13	15	29	67	86	103
Dividends declared.....	(2)	(2)	(2)	(2)	43	63	72
Employees.....	(2)	(2)	36	63	72	81	82
Wages and salaries.....\$1,000,000..	(2)	(2)	54	147	224	310	331

<sup>1</sup> Miles of open wire and miles of wire in aerial, underground, and other cable.

<sup>2</sup> Not available. <sup>3</sup> Excludes Federal income taxes.

Source: United States Independent Telephone Association, Washington, D.C., annual report, *Statistics of the Independent Telephone Industry* (copyright).

## No. 682. TELEPHONE SYSTEMS—SUMMARY, CLASS A CARRIERS: 1930 TO 1959

[All money figures in millions. Includes Hawaii and Puerto Rico. Excludes intercompany duplications. Covers class A telephone carriers filing annual reports with FCC. Class A carriers are those whose annual operating revenues exceeded \$100,000 for years prior to 1951, and \$250,000 thereafter; comparability of data relatively unaffected by change in coverage. Gross operating revenues of class A carriers (excluding intercompany duplications of Bell System) reporting in 1937 represented approximately 94 percent of revenues of all telephone carriers as reported for Census of Electrical Industries for that year]

YEAR	Miles of wire (1,000)	Tele-phones (1,000)	Employ-ees, number <sup>1</sup>	Total compensation	YEAR	Miles of wire (1,000)	Tele-phones (1,000)	Employ-ees, number <sup>1</sup>	Total compensation
1930.....	80,660	17,139	347,106	<sup>2</sup> \$556	1953.....	175,929	44,363	625,832	\$2,379
1935.....	82,578	15,157	265,699	403	1954.....	188,839	46,482	614,869	2,497
1940.....	93,888	19,336	304,595	537	1955.....	204,879	49,753	648,827	2,693
1945.....	104,388	24,814	398,263	936	1956.....	224,513	53,251	683,020	2,954
1950.....	147,380	38,525	564,964	1,798	1957.....	249,221	56,436	686,959	3,122
1951.....	154,810	40,426	586,809	1,970	1958.....	266,746	59,167	637,025	3,115
1952.....	164,776	42,404	615,141	2,201	1959.....	289,093	62,683	627,127	3,230

YEAR	Num-ber of carriers	Invest-ment in telephone plant	DEPRECIATION AND AMORTIZATION RESERVES		Operat-ing reve-nues	Operating ratio <sup>3</sup> (percent)	Taxes	Net operating income after all tax deduc-tions	Net income	Divi-dends declared
			Amount	Ratio to invest-ment (percent)						
1935 <sup>4</sup> .....	91	\$4,472	\$1,106	24.74	\$973	69.65	\$99	\$196	\$151	\$187
1940.....	78	5,071	1,438	28.35	1,243	65.33	194	237	221	185
1945.....	76	6,057	2,107	35.77	2,037	65.89	421	274	191	193
1950.....	71	10,702	2,979	27.84	3,445	71.52	526	455	372	270
1951.....	56	11,547	3,186	27.60	3,818	70.68	659	400	377	303
1952.....	54	12,609	3,411	27.06	4,229	70.63	738	504	421	346
1953.....	54	13,750	3,618	26.31	4,628	69.64	838	567	497	399
1954.....	52	14,899	3,836	25.75	5,013	68.55	929	648	570	450
1955.....	53	16,224	4,098	25.26	5,562	66.60	1,094	764	694	498
1956.....	56	18,081	4,332	23.96	6,122	66.39	1,218	840	783	563
1957.....	54	20,317	4,607	22.68	6,642	65.89	1,331	934	861	626
1958.....	54	21,998	4,898	22.27	7,140	62.47	1,558	1,122	1,002	670
1959.....	53	23,693	5,240	22.12	7,799	60.62	1,773	1,207	1,159	754

<sup>1</sup> As of Dec. 31 prior to 1943; end of October, thereafter. <sup>2</sup> Includes estimates.

<sup>3</sup> Ratio of operating expenses to operating revenues.

<sup>4</sup> Not exactly comparable with later years because of revisions of Uniform System of Accounts, effective 1937.

Source: Federal Communications Commission; annual report, *Statistics of Communications Com* (prior to 1957 titled *Statistics of the Communications Industry in the United States*).

# No. 683. TELEPHONE SYSTEMS—SELECTED DATA OF CLASS A CARRIERS, BY STATES AND FOR PUERTO RICO: 1959

[For year ending December 31. Represents class A carriers (those having annual operating revenues exceeding \$250,000) reporting to Federal Communications Commission]

STATE OR OTHER AREA	Miles of wire in cable <sup>1</sup>	Miles of aerial wire	Central offices	NUMBER OF CALLS ORIGINATING FROM COMPANY AND SERVICE TELEPHONES <sup>2</sup>		COMPANY TELEPHONES <sup>3</sup>		
				Local	Toll	Total	Business	Residence
	1,000	1,000		1,000	1,000	1,000	1,000	1,000
<b>Total <sup>4</sup>.....</b>	<b>281,861</b>	<b>7,231</b>	<b>12,506</b>	<b>96,842,725</b>	<b>3,664,584</b>	<b>62,037</b>	<b>17,719</b>	<b>44,318</b>
<b>United States <sup>4</sup>.....</b>	<b>281,595</b>	<b>7,221</b>	<b>12,434</b>	<b>96,388,361</b>	<b>3,661,368</b>	<b>61,966</b>	<b>17,677</b>	<b>44,289</b>
Alabama.....	3,597	188	144	1,578,935	26,792	702	169	533
Arizona.....	2,077	87	87	624,200	15,168	393	134	269
Arkansas.....	1,471	137	125	615,517	18,391	326	98	228
California.....	30,692	347	934	9,307,676	308,272	6,000	1,890	4,110
Colorado.....	2,799	151	220	1,152,200	28,543	736	228	508
Connecticut.....	6,504	90	165	1,667,554	113,466	1,242	339	903
Delaware.....	995	18	36	268,434	15,433	209	59	150
Dist. of Col.....	2,222	—	37	915,700	19,413	619	291	328
Florida.....	7,086	124	175	2,137,972	59,423	1,260	432	828
Georgia.....	4,954	257	241	2,072,751	49,621	1,033	284	749
Hawaii.....	545	15	68	383,017	1,216	191	55	136
Idaho.....	575	85	115	330,200	11,495	201	57	144
Illinois.....	18,287	177	483	4,848,140	282,404	3,851	1,179	2,672
Indiana.....	6,191	180	329	2,349,089	86,973	1,485	386	1,099
Iowa.....	2,426	169	202	1,084,399	36,807	729	180	549
Kansas.....	3,174	172	211	1,049,100	29,296	706	182	524
Kentucky.....	2,385	190	223	1,163,043	27,147	603	144	459
Louisiana.....	4,244	154	228	2,343,451	45,827	976	258	718
Maine.....	1,137	76	145	381,700	19,014	276	72	204
Maryland.....	6,220	141	222	1,693,700	53,609	1,233	300	933
Massachusetts.....	9,479	119	376	3,286,400	167,729	2,271	641	1,630
Michigan.....	13,261	387	627	5,164,649	157,147	3,136	788	2,348
Minnesota.....	4,873	155	226	1,918,700	34,485	1,057	285	772
Mississippi.....	1,408	177	211	847,583	24,531	406	107	299
Missouri.....	6,922	196	301	2,334,853	75,012	1,433	407	1,026
Montana.....	518	93	119	324,397	9,992	210	61	149
Nebraska.....	1,140	69	127	498,200	14,774	315	87	228
Nevada.....	316	36	28	81,271	3,871	54	21	33
New Hampshire.....	754	54	120	241,900	19,001	204	53	151
New Jersey.....	13,204	76	313	3,223,011	471,004	2,786	714	2,072
New Mexico.....	985	73	79	437,714	13,438	262	92	170
New York.....	33,335	218	967	10,896,834	445,117	7,886	2,471	5,415
North Carolina.....	4,296	281	275	1,679,486	48,223	874	237	637
North Dakota.....	276	74	145	223,400	7,187	126	37	89
Ohio.....	14,503	262	628	5,054,621	155,072	3,331	847	2,484
Oklahoma.....	3,609	182	249	1,359,696	42,597	782	234	548
Oregon.....	2,099	97	197	1,025,149	36,427	635	184	451
Pennsylvania.....	17,051	184	542	5,168,997	245,720	4,145	1,032	3,113
Rhode Island.....	1,587	20	48	515,299	21,677	337	90	247
South Carolina.....	2,473	147	128	872,122	20,722	453	123	330
South Dakota.....	494	92	137	251,400	7,871	169	46	123
Tennessee.....	4,766	258	260	2,295,108	38,964	1,029	266	763
Texas.....	17,049	450	807	5,918,349	143,118	2,994	924	2,070
Utah.....	1,175	59	92	623,000	12,828	326	88	238
Vermont.....	399	43	89	138,700	9,457	112	31	81
Virginia.....	5,820	200	249	1,763,283	52,105	1,070	299	771
Washington.....	4,673	161	287	1,810,992	53,864	1,085	303	782
West Virginia.....	2,048	100	170	852,879	29,489	492	123	369
Wisconsin.....	4,989	149	181	1,449,800	45,152	1,097	313	784
Wyoming.....	412	51	66	163,700	6,484	118	36	82
Puerto Rico.....	266	10	72	154,364	3,216	71	42	29

<sup>1</sup> Excludes ocean cable.

<sup>2</sup> Partly estimated.

<sup>3</sup> Comprises main, P. B. X. (those directly connected with private branch exchanges), and extension telephones.

<sup>4</sup> Excludes Alaska (no class A carriers).

Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers* (prior to 1957 titled *Statistics of the Communications Industry in the United States*).

**No. 684. RURAL ELECTRIFICATION ADMINISTRATION—TELEPHONE PROGRAM,  
SUMMARY OF OPERATIONS: 1950 TO 1960**

[Beginning 1955, includes Alaska]

ITEM	1950	1955	1956	1957	1958	1959	1960
Loans approved, cumulative, Dec. 31: <sup>1</sup>							
Borrowers.....	61	415	509	576	638	686	727
Amount..... (\$1,000).....	18, 831	273, 680	351, 501	426, 093	526, 540	633, 180	736, 805
Route miles of line provided for, cumulative, Dec. 31, total.....	21, 408	178, 633	221, 841	258, 590	297, 322	338, 644	377, 754
To be added <sup>2</sup> .....	10, 833	163, 484	196, 243	224, 515	257, 392	292, 922	326, 716
To be retained <sup>3</sup> .....	1, 575	15, 149	25, 598	34, 075	59, 930	45, 722	51, 038
Subscribers provided for, cumulative, Dec. 31, total.....	74, 585	606, 894	784, 172	928, 861	1, 100, 234	1, 288, 856	1, 466, 968
To receive initial service.....	45, 449	310, 700	373, 618	427, 321	495, 994	578, 851	672, 677
To receive improved service.....	29, 136	296, 194	410, 554	501, 540	604, 240	710, 005	794, 321
Borrowers' operations:							
Borrowers reporting, Dec. 31.....	(4)	285	406	515	588	646	<sup>5</sup> 671
Subscribers served, Dec. 31.....	(4)	283, 551	435, 155	604, 702	778, 488	956, 044	<sup>5</sup> 1, 065, 248
Telephones in service, Dec. 31.....	(4)	303, 823	407, 511	655, 064	852, 803	1, 059, 456	<sup>5</sup> 188, 404
Total operating revenues during year..... (\$1,000).....	(4)	16, 359	26, 714	40, 835	55, 890	73, 437	<sup>5</sup> 85, 173

<sup>1</sup> Net loans (recisions deducted). <sup>2</sup> Route miles of line to be constructed or rebuilt.

<sup>3</sup> Excludes route miles of line to be rebuilt. <sup>4</sup> Not available.

<sup>5</sup> As of June 30. <sup>6</sup> For 12 months ending June 30.

Source: Department of Agriculture, Rural Electrification Administration; annual report, *Agricultural Statistics*.

**No. 685. RADIO AND OCEAN-CABLE TELEPHONE SERVICE, BY CLASS: 1957 TO 1959**

[In thousands. Includes Hawaii. For 1959, covers radio and ocean-cable telephone service offered by 34 of the 53 class A telephone carriers; in addition, service between fixed stations and marine service with revenue amounting to \$1,611,293 is offered by 3 radio-telegraph carriers and 1 cable carrier, details for which were not reported.]

CLASS OF SERVICE	1957		1958		1959	
	Number of chargeable calls	Gross revenues	Number of chargeable calls	Gross revenues	Number of chargeable calls	Gross revenues
<b>FIXED STATIONS AND OCEAN-CABLE</b>						
Message service, total.....	2, 544	\$23, 710	2, 802	\$28, 914	3, 203	\$34, 436
Overseas, total.....	2, 178	22, 679	2, 427	27, 841	2, 736	33, 110
Bermuda and trans-Atlantic.....	699	9, 224	773	10, 142	898	12, 074
Central and South American and Caribbean.....	1, 067	8, 710	1, 156	9, 895	1, 228	10, 683
Trans-Pacific.....	422	4, 745	498	7, 803	610	10, 353
Within Hawaii.....	366	1, 031	375	1, 073	467	1, 326
Private line service, overseas.....		718		1, 479		3, 442
<b>MOBILE STATIONS</b>						
Marine service to mobile stations.....	708	1, 295	678	1, 240	678	1, 254
General service.....	646	1, 242	621	1, 191	622	1, 205
Dispatching service.....	62	53	57	49	56	49
Domestic public land mobile radio services <sup>1</sup> .....	4, 191	6, 799	4, 141	6, 485	4, 638	6, 971
General service.....	3, 540	5, 891	3, 499	5, 604	3, 958	6, 107
Direct dispatching service.....	593	835	570	795	612	773
Signalling or paging service.....	58	73	72	85	68	91
Private mobile radiotelephone systems.....		8, 647		8, 779		7, 849

<sup>1</sup> Includes 513,000 Cuban calls with revenues amounting to \$3,154,000.

<sup>2</sup> In addition, there were in operation other mobile radio systems, of which most were operated by small miscellaneous common carriers. As of Dec. 31, 1957, 1958, and 1959, there were, respectively, 390, 438, and 463 such systems, with gross operating revenues of \$2,780,705, \$3,378,350, and \$3,819,446.

Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers* (prior to 1957 titled *Statistics of the Communications Industry in the United States*).

# No. 686. DOMESTIC AND INTERNATIONAL TELEGRAPH CARRIERS—SUMMARY: 1930 to 1959

[Figures comprise principal carriers filing annual reports with Federal Communications Commission. See also *Historical Statistics, Colonial Times to 1957*, series R 53-65, for domestic telegraph, and series R 72-85, for data on international telegraph]

ITEM	1930	1940	1950	1955	1958	1959
<b>DOMESTIC TELEGRAPH <sup>1</sup></b>						
Number of carriers.....	2	2	1	1	1	1
Investment in plant and equipment.....\$1,000..	379,869	375,021	294,451	310,968	304,498	380,216
Revenue messages transmitted <sup>2</sup> .....1,000..	211,971	191,645	178,904	153,010	131,867	130,993
Message revenues.....\$1,000..	131,453	97,908	152,248	188,855	185,150	194,012
Total operating revenues.....do.....	148,223	114,587	177,904	228,816	240,729	260,849
Operating income <sup>4</sup> .....do.....	8,596	3,731	8,664	13,179	10,008	14,087
Miles of wire in cable.....1,000..	3,357	449	369	388	398	399
Miles of aerial wire.....do.....	1,912	1,820	929	712	677	659
Number of employees <sup>5</sup> .....	84,962	59,670	40,482	37,785	33,620	33,151
Total compensation.....\$1,000..	108,557	74,736	116,937	143,289	154,032	159,842
<b>INTERNATIONAL TELEGRAPH <sup>6</sup></b>						
Ocean-cable:						
Number of carriers.....	5	5	4	3	3	3
Investment in plant and equipment.....\$1,000..	119,966	111,129	97,283	93,226	97,515	99,323
Revenue messages transmitted <sup>2</sup> .....1,000..	15,258	7,667	9,969	10,671	10,420	10,807
Message revenues.....\$1,000..	27,245	16,733	23,392	23,105	23,814	26,678
Total operating revenues.....do.....	27,811	17,840	24,649	33,459	35,065	36,599
Operating income <sup>4</sup> .....do.....	7,712	1,434	1,937	1,450	2,086	1,969
Miles (nautical) of ocean cable.....1,000..	98	95	88	76	76	75
Miles of wire in non-ocean cable.....do.....	4	8	6	5	14	14
Miles of aerial wire.....do.....	10	8	7	7	7	7
Number of employees <sup>5</sup> .....	6,880	4,534	5,495	5,919	5,912	5,868
Total compensation.....\$1,000..	9,795	6,602	12,031	15,924	17,728	17,853
Radiotelegraph:						
Number of carriers.....	7	8	7	7	6	6
Investment in plant and equipment.....\$1,000..	27,270	30,886	38,885	41,952	50,924	58,284
Revenue messages transmitted <sup>1</sup> .....1,000..	5,151	8,952	12,609	14,971	16,456	17,326
Message revenues.....\$1,000..	6,358	12,537	22,239	27,385	30,818	33,277
Total operating revenues.....do.....	7,549	14,247	25,684	34,501	42,216	47,778
Operating income <sup>4</sup> .....do.....	272	2,259	1,867	1,952	3,285	3,285
Number of employees <sup>5</sup> .....	2,119	3,549	5,264	5,925	5,270	5,371
Total compensation.....\$1,000..	3,809	6,207	18,209	24,624	25,127	26,677

<sup>1</sup> Includes Alaska.

<sup>2</sup> Principally as estimated by reporting carriers on basis of actual counts for test periods.

<sup>3</sup> Beginning 1950, press messages included on unequated basis; equated basis for prior years.

<sup>4</sup> After recorded provision for Federal income taxes including those on non-communications activities.

<sup>5</sup> End of June for 1930, December for 1940, and October thereafter.

<sup>6</sup> Includes Alaska, Hawaii, and Puerto Rico.

Source: Federal Communications Commission; annual report, *Statistics of Communications Common Carriers* (prior to 1957 titled *Statistics of the Communications Industry in the United States*).

# No. 687. DOMESTIC TELEGRAPH AND TELETYPEWRITER (TWX) RATES, INTERNATIONAL CABLE AND RADIO-TELEGRAPH RATES, AND INTERNATIONAL TELEPHONE RATES BETWEEN NEW YORK CITY AND SELECTED CITIES: 1919 to 1961

[See also *Historical Statistics, Colonial Times to 1957*, series R 68-71 and R 86-89]

BETWEEN NEW YORK CITY AND—					EFFECTIVE DATE	BETWEEN NEW YORK CITY AND—			
EFFECTIVE DATE	Phila- delphia	Chicago	Denver	San Fran- cisco		London	Cairo	Tokyo	Buenos Aires
TELEGRAPH RATES <sup>1</sup>					INTERNATIONAL CABLE AND RADIO- TELEGRAPH RATES <sup>4</sup>				
1919, April 1.....	\$0.30	\$0.60	\$0.90	\$1.20	1940.....	\$0.20	\$0.42	\$0.72	\$0.42
1946, June 12.....	.33	.66	.99	1.32	1940, August 16.....	.20	.42	.72	.26
1946, December 29.....	.36	.72	1.08	1.44	1945, May 1.....	.20	.42	.24	.20
1950, February 1.....	.40	.75	1.25	1.45	1946, May 1.....	.20	.30	.20	.20
1951, September 1.....	.60	1.00	1.45	1.60	1947, August 5.....	.20	.30	.30	.22
1952, July 6.....	.65	1.10	1.55	1.70	1948, April 28.....	.25	.30	.30	.28
1954, July 15.....	.85	1.25	1.70	1.70	1949, February 2.....	.25	.40	.40	.35
1956, August 26.....	.95	1.30	1.75	1.75	1950, July 1.....	.19	.30	.30	.27
1958, August 1.....	1.05	1.40	1.85	1.85	1958, August 1.....	.21	.34	.34	.31
1960, October 17.....	1.10	1.45	1.90	1.90	In effect Jan. 1, 1961.....	.21	.34	.34	.31
In effect Jan. 1, 1961.....	1.10	1.45	1.90	1.90	INTERNATIONAL TELEPHONE RATES <sup>5</sup>				
TELETYPEWRITER EXCHANGE SERVICE (TWX) RATES <sup>2</sup>					1940.....	21.00	30.00	19.50	15.00
1931, November 21 <sup>3</sup> .....	.35	1.10	1.80	2.40	1944.....	21.00	30.00	19.50	12.00
1946, February 1.....	.35	1.05	1.55	1.75	1945.....	12.00	30.00	19.50	12.00
1953, July 1.....	.45	1.20	1.65	1.75	1946.....	12.00	12.00	12.00	12.00
In effect Jan. 1, 1961.....	.45	1.20	1.65	1.75	In effect Jan. 1, 1961.....	12.00	12.00	12.00	12.00

<sup>1</sup> Beginning Sept. 1, 1951, minimum charge for 15 text words or less; prior to that, for 10 text words or less.

<sup>2</sup> For 3 minutes or less, 2-way. <sup>3</sup> Beginning of service.

<sup>4</sup> Per plain language telegraph-word, including address and signature. <sup>5</sup> For 3-minute conversations.

Source: Federal Communications Commission; records.

**No. 688. WESTERN UNION TELEGRAPH COMPANY—LINE AND WIRE MILEAGE, OFFICES, AND FINANCES: 1930 TO 1960**

[As of December 31. Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series R 42-53, for related but not comparable data]

YEAR	Miles of pole line and cable <sup>1</sup>	Miles of wire <sup>1</sup>	Channel miles in telegraph circuits <sup>2</sup>	Number of offices <sup>3</sup>	Receipts	Expenses	Net income
	1,000	1,000	1,000		\$1,000	\$1,000	\$1,000
1930.....	257	1,949	4	24,298	133,236	123,988	9,248
1935.....	255	1,906	4	20,964	91,389	86,131	5,258
1940.....	249	1,915	27	19,140	101,278	97,656	3,622
1945.....	276	2,291	150	18,687	194,271	189,837	4,435
1950.....	132	1,338	1,788	16,202	187,821	180,501	7,320
1954.....	116	1,167	3,420	12,802	223,288	213,903	9,385
1955.....	112	1,137	3,622	12,358	243,362	230,321	13,041
1956.....	111	1,125	4,023	11,956	254,161	240,390	13,771
1957.....	111	1,116	4,088	11,401	261,977	249,348	12,629
1958.....	110	1,114	4,446	10,515	256,982	245,055	11,927
1959.....	109	1,097	4,652	9,301	278,794	262,294	16,500
1960.....	109	1,102	4,855	8,370	277,260	265,758	11,502

<sup>1</sup> Pole and wire mileages reflect acquisition on Oct. 7, 1943, of facilities of Postal Telegraph Companies.

<sup>2</sup> In use chiefly on the company's trunk lines through 1950; beginning 1954, represents all telegraph circuits.

<sup>3</sup> Excludes agency and commission offices, numbering 10,516 on Dec. 31, 1960.

Source: Western Union Telegraph Company, New York, N. Y.

**No. 689. BROADCAST AND OTHER RADIO STATIONS AUTHORIZED AND OPERATORS LICENSED, BY CLASS: 1955, 1959, AND 1960**

[As of June 30. Includes Alaska, Hawaii, Puerto Rico, and Virgin Islands. See also *Historical Statistics, Colonial Times to 1957*, series R 120-126]

CLASS OF STATION OR OPERATOR	1955	1959	1960	CLASS OF STATION OR OPERATOR	1955	1959	1960
<b>Safety and special radio services<sup>1</sup></b>	<b>300,227</b>	<b>507,171</b>	<b>651,993</b>	<b>Public safety services—</b>			
Amateur and disaster services.....	142,387	205,588	228,206	Continued State guard.....	188	10	11
Amateur.....	139,993	195,776	217,102	Public safety (combined).....	29	148	-----
Disaster.....	317	390	404	Local government.....	-----	502	1,678
Radio amateur civil emergency service.....	2,077	9,422	10,700	<b>Broadcast services<sup>2</sup></b>	<b>6,257</b>	<b>10,120</b>	<b>11,179</b>
Aviation services.....	43,855	77,682	91,180	Commercial AM.....	2,840	3,500	3,581
Aircraft.....	30,228	61,441	72,017	Commercial TV.....	582	667	653
Aeronautical and fixed.....	2,082	3,554	3,942	Educational TV.....	34	59	64
Civil air patrol.....	11,108	12,006	14,432	TV translator.....	( <sup>3</sup> )	245	302
Other.....	437	681	789	Auxiliary TV.....	516	991	1,093
Industrial services.....	24,854	49,697	64,804	Experimental TV.....	15	20	24
Power.....	8,132	11,878	12,427	Commercial FM.....	552	760	912
Business.....	-----	8,801	19,161	Educational FM.....	127	165	181
Petroleum.....	6,178	7,341	8,591	International.....	( <sup>3</sup> )	3	5
Forest products.....	1,144	1,792	1,876	Remote pickup.....	1,546	3,630	4,279
Special industrial.....	8,190	10,246	21,901	Studio transmitter link.....	43	59	65
Low power industrial.....	933	-----	-----	Developmental.....	2	-----	4
Relay press.....	82	142	138	Low power auxiliary (cueing).....	-----	12	16
Motion picture.....	43	67	48	<b>Common carrier services<sup>1</sup></b>	<b>1,948</b>	<b>3,845</b>	<b>4,386</b>
Other.....	152	370	662	Experimental.....	1,175	-----	-----
Land transportation services.....	20,002	59,894	137,486	Point to point microwave.....	-----	2,084	2,379
Citizens.....	12,334	49,269	126,034	Local TV transmission.....	-----	77	77
Railroad.....	1,405	2,449	3,065	Rural radio.....	-----	369	473
Taxicab.....	4,526	4,827	4,935	Developmental.....	-----	45	51
Automobile emergency.....	411	1,052	1,188	Domestic public land mobile.....	724	1,216	1,350
Other.....	1,326	2,297	2,264	Fixed public telephone.....	19	11	12
Marine services.....	50,714	84,947	97,411	Fixed public telegraph.....	30	43	44
Ship.....	49,594	83,296	95,626	<b>Radio operators</b>	<b>1,123,125</b>	<b>1,897,406</b>	<b>2,154,402</b>
Coastal.....	243	393	412	Commercial operators.....	986,363	1,705,913	1,947,368
Alaskan.....	786	1,132	1,240	Amateur operators.....	136,762	191,493	207,034
Other.....	91	126	133	<b>Experimental services, miscellaneous</b>	<b>625</b>	<b>891</b>	<b>730</b>
Public safety services.....	18,415	29,363	32,906				
Police.....	9,725	13,103	14,039				
Fire.....	2,337	5,283	5,935				
Forestry conservation.....	2,967	3,618	3,667				
Highway maintenance.....	1,330	3,063	3,582				
Special emergency.....	1,839	3,631	3,994				

<sup>1</sup> Each license, construction permit, or combination construction permit and license is counted as one station; therefore, a station might include a transmitter and many mobile units.

<sup>2</sup> Stations licensed or holding construction permits. <sup>3</sup> Not available.

Source: Federal Communications Commission; *Annual Report*, and records.

### No. 690. COMMERCIAL BROADCAST STATIONS AUTHORIZED AND ON THE AIR: 1945 to 1961

[As of January 1. Includes Alaska, Hawaii, Puerto Rico, Virgin Islands, and beginning 1956, Guam. Figures differ from those shown in table 691 because of different tabulations. See also *Historical Statistics, Colonial Times to 1957*, series R 90-94, for number of operating stations]

YEAR	TOTAL		AM RADIO		FM RADIO		TELEVISION	
	Author-ized	On the air	Author-ized	On the air	Author-ized	On the air	Author-ized	On the air
1945.....	969	936	908	884	52	46	9	6
1946.....	1,236	967	969	913	258	48	9	6
1947.....	2,221	1,174	1,485	1,027	684	140	52	7
1948.....	3,010	1,977	1,927	1,586	1,010	374	73	17
1949.....	3,182	2,627	2,092	1,877	966	700	124	50
1950.....	3,098	2,881	2,199	2,051	788	733	111	97
1951.....	3,129	2,981	2,317	2,198	703	676	109	107
1952.....	3,132	3,042	2,374	2,297	650	637	108	108
1953.....	3,393	3,098	2,496	2,357	630	616	273	125
1954.....	3,738	3,396	2,602	2,487	580	560	556	349
1955.....	3,864	3,599	2,740	2,635	559	553	565	411
1956.....	4,044	3,772	2,901	2,790	557	540	586	442
1957.....	4,275	3,975	3,091	2,974	554	530	630	471
1958.....	4,503	4,185	3,256	3,156	590	537	657	492
1959.....	4,762	4,374	3,401	3,287	695	578	666	509
1960.....	4,993	4,611	3,487	3,416	838	678	668	517
1961.....	5,269	4,858	3,627	3,507	1,018	821	624	530

Source: Federal Communications Commission.

### No. 691. COMMERCIAL BROADCAST STATIONS ON THE AIR, BY STATES AND FOR OTHER AREAS: JANUARY 1, 1960

STATE OR OTHER AREA	Total	AM	FM	TV	STATE OR OTHER AREA	Total	AM	FM	TV
<b>Total.....</b>	<b>4,602</b>	<b>3,418</b>	<b>659</b>	<b>525</b>	Montana.....	44	35	4	9
<b>United States.....</b>	<b>4,559</b>	<b>3,385</b>	<b>655</b>	<b>519</b>	Nebraska.....	50	35	4	11
Alabama.....	133	107	16	10	Nevada.....	22	17	1	4
Alaska.....	17	12	5	8	New Hampshire.....	23	17	5	1
Arizona.....	61	48	5	8	New Jersey.....	36	26	9	1
Arkansas.....	76	67	4	5	New Mexico.....	56	45	5	6
California.....	289	186	72	31	New York.....	209	133	53	23
Colorado.....	73	57	7	9	North Carolina.....	196	146	39	11
Connecticut.....	48	32	10	6	North Dakota.....	29	19	10	10
Delaware.....	12	9	3	4	Ohio.....	162	92	51	19
Dist. of Columbia.....	19	7	8	4	Oklahoma.....	68	54	5	9
Florida.....	195	158	20	17	Oregon.....	86	68	10	8
Georgia.....	157	131	15	11	Pennsylvania.....	216	146	49	21
Hawaii.....	25	17	1	7	Rhode Island.....	21	13	6	2
Idaho.....	41	34	7	7	South Carolina.....	92	73	11	8
Illinois.....	146	94	34	18	South Dakota.....	29	23	6	6
Indiana.....	91	61	15	15	Tennessee.....	133	108	11	14
Iowa.....	80	61	7	12	Texas.....	320	245	32	43
Kansas.....	60	47	3	10	Utah.....	32	26	2	4
Kentucky.....	104	84	14	6	Vermont.....	17	16	1	1
Louisiana.....	98	78	8	12	Virginia.....	128	97	19	12
Maine.....	35	27	2	6	Washington.....	102	80	9	13
Maryland.....	54	37	13	4	West Virginia.....	67	50	9	8
Massachusetts.....	85	58	19	8	Wisconsin.....	107	76	17	14
Michigan.....	128	95	19	14	Wyoming.....	27	23	4	4
Minnesota.....	76	64	4	8	Guam.....	2	1	1	1
Mississippi.....	82	74	8	8	Puerto Rico.....	39	30	4	5
Missouri.....	102	77	9	16	Virgin Islands.....	2	2	-----	-----

Source: Federal Communications Commission.

## No. 692. RADIO BROADCAST INDUSTRY FINANCES: 1950 TO 1959

[Money figures in millions of dollars. For years ending December 31. Includes Alaska, Hawaii, Puerto Rico, and Virgin Islands. Excludes FM (independents). See also headnote, table 694. See also *Historical Statistics, Colonial Times to 1957*, series R 103-107, for data including FM independents]

ITEM	1950	1954	1955	1956	1957	1958	1959
Number of networks.....	7	7	7	7	7	7	4
Number of stations.....	2,143	2,555	2,704	2,915	3,097	3,197	3,380
Broadcast revenues.....	443.1	448.8	452.3	479.2	515.2	520.6	555.7
7 networks (incl. owned and operated stations) <sup>1</sup> .....	110.5	88.6	73.3	70.2	73.5	69.4	60.4
Other stations.....	332.6	360.2	374.0	409.0	441.7	451.2	495.3
Broadcast expenses of networks and stations.....	372.3	406.3	406.0	429.6	460.9	482.6	511.7
7 networks (incl. owned and operated stations) <sup>1</sup> .....	91.5	80.4	72.4	69.8	73.6	73.0	64.9
Other stations.....	280.8	325.9	333.6	359.8	387.3	409.6	446.8
Broadcast income before Federal income tax.....	70.7	42.5	46.4	49.6	54.3	38.0	44.0
7 networks (incl. owned and operated stations) <sup>1</sup> .....	19.0	8.1	5.9	.4		-3.6	-4.5
Other stations.....	51.8	34.3	40.4	49.2	54.3	41.6	48.5
BROADCAST REVENUES							
Revenues from time sales, net.....	401.1	404.1	410.9	440.3	475.6	482.0	520.0
Commissions to regularly established agencies, representatives, brokers and others.....	62.5	47.2	45.6	51.4	61.8	59.6	62.9
Revenues from time sales, total.....	463.6	451.3	456.5	491.7	536.9	541.6	582.9
Revenues from network time sales, net.....	131.5	83.7	64.1	48.4	50.6	46.5	35.6
Revenues from non-network time sales to:							
National and regional advertisers and sponsors.....	118.8	120.2	120.4	145.5	169.5	171.9	188.2
Local advertisers and sponsors.....	203.2	247.5	272.0	297.8	316.8	323.2	359.1
Revenues from incidental broadcast activities.....	42.0	44.7	41.4	38.8	39.5	38.5	35.7
Talent.....	25.2	30.5	26.9	24.0	24.8	24.7	22.3
Sundry broadcast revenues.....	10.8	14.1	14.5	14.8	14.7	13.8	13.4

<sup>1</sup> 1959 covers the operations of 4 nationwide networks and their owned and operated stations. Excludes regional networks.

Source: Federal Communications Commission; annual release, *Final AM and FM Financial Data*.

## No. 693. TELEVISION BROADCAST INDUSTRY FINANCES: 1950 TO 1959

[Money figures in millions of dollars. For years ending December 31. Includes Alaska, Hawaii, Puerto Rico, and Virgin Islands. See also headnote, table 694. See also *Historical Statistics, Colonial Times to 1957*, series R 114-117]

ITEM	1950	1954	1955	1956	1957	1958	1959
Number of networks.....	4	4	4	3	3	3	3
Number of stations.....	107	410	437	474	501	514	519
Broadcast revenues.....	105.9	592.9	744.7	896.9	943.2	1,030.0	1,163.9
4 networks (incl. owned and operated stations) <sup>1</sup> .....	55.5	306.7	374.0	442.3	467.9	516.7	576.1
Other stations.....	50.4	286.2	370.7	454.6	475.3	513.3	587.8
Broadcast expenses of networks and stations.....	115.1	502.6	594.5	707.3	783.2	858.1	941.6
4 networks (incl. owned and operated stations) <sup>1</sup> .....	65.5	270.2	308.0	356.9	397.2	430.7	488.2
Other stations.....	49.6	232.4	288.5	350.4	386.0	418.4	453.4
Broadcast income before Federal income tax.....	<sup>2</sup> 9.2	90.3	150.2	189.6	160.7	171.9	222.3
4 networks (incl. owned and operated stations) <sup>1</sup> .....	<sup>2</sup> 10.0	36.5	68.0	85.4	70.7	77.0	87.9
Other stations.....	.8	53.8	82.1	104.2	89.3	94.9	134.4
BROADCAST REVENUES							
Revenues from time sales, net.....	76.3	452.2	572.4	689.1	726.3	791.7	890.4
Commissions to regularly established agencies, representatives, brokers and others.....	14.3	85.9	108.7	134.0	142.4	159.3	180.2
Revenues from time sales, total.....	90.6	538.1	681.1	823.1	868.7	951.0	1,070.6
Revenues from network time sales, net.....	35.2	241.2	308.9	367.7	394.2	424.5	445.8
Revenues from non-network time sales to:							
National and regional advertisers and sponsors.....	25.0	176.8	222.4	281.2	300.5	345.2	424.2
Local advertisers and sponsors.....	30.4	120.1	149.8	174.2	174.0	181.3	200.6
Revenues from incidental broadcast activities.....	29.6	140.7	172.3	207.8	216.9	238.3	273.5
Talent.....	15.2	85.0	112.6	140.4	156.0	172.2	197.0
Sundry broadcast revenues.....	14.4	55.7	59.8	61.4	60.9	66.1	76.5

<sup>1</sup> 3 networks after Sept. 15, 1955, when DuMont ceased network operations.

<sup>2</sup> Loss.

Source: Federal Communications Commission; annual release, *Final TV Broadcast Financial Data*.

# **No. 694. BROADCAST REVENUES OF ALL NETWORKS AND STATIONS, AM AND AM-FM, FM, AND TV: 1940 TO 1959**

[For years ending December 31. Includes Alaska, Hawaii, Puerto Rico, and Virgin Islands. Total broadcast revenues are defined as total time sales of all networks and stations, less commissions to agencies and plus incidental revenues, such as sale of talent, program material, etc. For each year, excludes data for a certain number of reports received too late to be included; 1959 data excludes 38 such AM-FM stations. See also *Historical Statistics, Colonial Times to 1957*, series R 104-105 and R 114-115]

YEAR	TOTAL		AM AND AM-FM		FM (INDEPENDENTS)		TV	
	Number of stations	Revenues (\$1,000)	Number of stations	Revenues (\$1,000)	Number of stations	Revenues (\$1,000)	Number of stations	Revenues <sup>2</sup> (\$1,000)
1940.....	765	147, 147	765	147, 147	-----	-----	-----	-----
1941.....	825	168, 785	817	168, 779	2	-----	6	6
1942.....	862	178, 894	851	178, 839	5	13	6	42
1943.....	852	215, 428	841	215, 318	5	26	6	84
1944.....	885	275, 550	875	275, 299	4	32	6	219
1945.....	912	299, 715	901	299, 338	5	39	6	338
1946.....	1, 043	323, 228	1, 025	322, 553	8	17	10	658
1947.....	1, 531	366, 032	1, 464	363, 714	52	422	15	1, 896
1948.....	1, 974	416, 867	1, 824	406, 995	103	1, 251	47	8, 621
1949.....	2, 223	449, 544	2, 021	413, 785	104	1, 429	98	34, 330
1950.....	2, 336	550, 395	2, 143	443, 058	86	1, 422	107	105, 915
1951.....	2, 374	686, 176	2, 200	449, 226	66	1, 266	108	235, 684
1952.....	2, 502	793, 915	2, 324	468, 592	56	1, 100	122	324, 223
1953.....	2, 813	908, 025	2, 434	474, 585	45	800	334	432, 640
1954.....	3, 008	1, 042, 486	2, 555	448, 785	43	764	410	592, 937
1955.....	3, 179	1, 198, 066	2, 704	452, 338	38	1, 013	437	744, 714
1956.....	3, 440	1, 377, 460	2, 915	479, 160	51	1, 415	474	806, 885
1957.....	3, 665	1, 460, 468	3, 097	515, 167	67	2, 035	501	943, 206
1958.....	3, 804	1, 553, 182	3, 197	520, 597	93	2, 546	514	1, 030, 039
1959.....	4, 047	1, 728, 987	3, 380	555, 732	148	4, 303	519	1, 163, 952

<sup>1</sup> Includes 4 nationwide networks and, prior to 1959, 3 regional networks.

<sup>2</sup> Includes 4 TV networks beginning in 1948 when commercial TV network operation started; covers 3 networks after Sept. 15, 1955, when DuMont ceased network operations.

Source: Federal Communications Commission.

# **No. 695. PERCENT OF HOUSEHOLDS WITH TELEVISION SETS, BY AREA AND REGION: 1955, 1959, AND 1960**

[Beginning 1960, includes Alaska and Hawaii. For composition of regions, see figure I, p. XII; for explanation of urban and rural, see p. 2; and for definition of standard metropolitan statistical areas, see headnote, table 10 (data refer to 168 SMSA's as constituted in 1950). An urbanized area contains at least one city with 50,000 inhabitants or more in 1940 or subsequently, plus the surrounding closely settled incorporated places and unincorporated areas that comprise its urban fringe. See also *Historical Statistics, Colonial Times to 1957*, series R 98, for number of families with TV sets]

AREA OR REGION	June 1955	May 1959	May 1960	AREA OR REGION	June 1955	May 1959	May 1960
<b>Households having 1 set or more.....</b>	67	86	88	<b>By urban and rural:</b>			
<b>By area:</b>				Urban.....	74	89	89
Inside standard metro- politan statistical areas.....	78	91	91	In urbanized areas.....	79	90	90
Outside standard metro- politan statistical areas.....	50	80	82	Area of 3,000,000 or more.....	81	90	91
<b>By region and division:</b>				Areas of 1,000,000 to 3,000,000.....	82	91	91
Northeast.....	80	92	92	Areas of 250,000 to 1,000,000.....	79	89	88
New England.....	(1)	92	93	Areas under 250,000.....	74	89	88
Middle Atlantic.....	(1)	92	92	<b>Not in urbanized areas.....</b>	56	85	86
North Central.....	72	88	89	Places of 10,000 or more.....	62	86	88
East North Central.....	(1)	90	90	Places under 10,000.....	52	82	84
West North Central.....	(1)	85	87	<b>Rural nonfarm.....</b>	61	86	88
South.....	53	79	82	<b>Rural farm.....</b>	42	73	76
South Atlantic.....	(1)	82	84	<b>By number of sets:</b>			
East South Central.....	(1)	72	78	No set.....	33	14	12
West South Central.....	(1)	80	81	One set.....	65	78	77
West.....	62	86	87	Two sets or more.....	2	8	11
Mountain.....	(1)	81	83				
Pacific.....	(1)	88	88				

<sup>1</sup> Not available.

Source: Department of Commerce, Bureau of the Census; *Housing and Construction Reports*, Series H-121.



# Newspapers

517

## No. 696. NEWSPAPERS AND PERIODICALS—NUMBER AND CIRCULATION, BY FREQUENCY OF ISSUE, AND RECEIPTS: 1939 TO 1958

[Circulation in thousands and money figures in millions. Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series R 173-186]

FREQUENCY OF ISSUE AND RECEIPTS	NEWSPAPERS				PERIODICALS			
	1939	1947	1954	1958	1939	1947	1954	1958
Total number	9,173	10,282	9,022	8,645	4,985	4,610	3,427	2,455
Aggregate circulation <sup>a</sup>	96,476	119,567	136,353	136,803	239,693	384,628	449,285	391,936
Daily (except Sunday):								
Morning: Number	473	400	385	357				
Circulation	17,152	21,796	22,475	23,916				
Evening: Number	1,567	1,454	1,435	1,421	<sup>b</sup> 220	<sup>b</sup> 112	<sup>b</sup> 84	
Circulation	25,814	31,400	33,935	34,797	<sup>b</sup> 1,979	<sup>b</sup> 842	<sup>b</sup> 748	
Sunday: Number								
Circulation	33,007	42,736	46,350	48,262				
Triweekly: Number	36	21	29	( <sup>c</sup> )	12	5	( <sup>c</sup> )	( <sup>c</sup> )
Circulation	219	151	198	( <sup>c</sup> )	27	5	( <sup>c</sup> )	( <sup>c</sup> )
Semiweekly: Number	343	230	288	( <sup>c</sup> )	50	21	732	( <sup>c</sup> )
Circulation	1,990	926	1,327	( <sup>c</sup> )	2,995	182	7263	( <sup>c</sup> )
Weekly: Number	6,212	7,705	6,249	6,315	1,109	892	487	478
Circulation	18,295	21,408	30,336	29,828	55,825	69,393	82,066	106,147
Semimonthly: Number					193	233	148	( <sup>c</sup> )
Circulation					8,135	13,832	19,842	( <sup>c</sup> )
Monthly: Number					2,323	2,253	1,604	1,445
Circulation					134,766	194,824	204,026	185,003
Quarterly: Number					698	647	422	364
Circulation					26,238	45,635	43,339	25,848
Other: Number		56	126	( <sup>c</sup> )	380	447	650	768
Circulation		1,060	1,732	( <sup>c</sup> )	9,726	60,015	99,001	75,938
Receipts, total	\$846	\$1,792	\$2,913	\$3,458	\$409	\$1,019	\$1,413	\$1,578
Subscription and sales	306	600	837	979	185	407	531	556
Advertising	539	1,192	2,050	2,444	224	612	883	983

<sup>1</sup> Not comparable with 1954 figures because no separate data were collected in 1958 for newspapers published triweekly, semiweekly, "other." Comparable totals for 1954 would be: For total number of newspapers, 8,539, and for aggregate circulation, 133,096 thousand.

<sup>2</sup> Includes 1,400 publications not specified as to circulation and frequency of issue.

<sup>3</sup> Totals of average circulation per issue for individual publications from publishers reporting receipts on a combined frequency of issue basis as well as from publishers reporting receipts separately for each frequency of issue.

<sup>4</sup> Does not include any estimated circulation for the relatively small number of publications for which circulation was not reported, hence not strictly comparable with 1954.

<sup>5</sup> Daily only, neither morning nor evening. <sup>6</sup> Not available.

<sup>7</sup> Semiweekly and triweekly figures combined to avoid disclosure of individual company figures.

<sup>8</sup> Includes \$26 million for newspapers and \$19 million for periodicals, not distributed by publishers between subscription and sales and advertising, for 1954; for 1958, \$35 million for newspapers and \$40 million for periodicals.

Source: Department of Commerce, Bureau of the Census; *U.S. Census of Manufactures: 1958*, Series MC-27A.

## No. 697. NEWSPRINT CONSUMPTION, NEWSPAPER PAGES PER ISSUE, AND CIRCULATION PER FAMILY: 1940 TO 1960

[Beginning 1960, includes Alaska and Hawaii]

YEAR	NEWSPRINT CONSUMPTION (1,000 TONS)						PAGES OF NEWSPAPER PER ISSUE <sup>3</sup>		NEWSPAPER CIRCULATION PER FAMILY	
	Total <sup>1</sup>	By newspapers <sup>2</sup>				Daily	Sun-day	Daily	Sun-day	
		Total	For advertising content		For editorial content					
			Amount	Per-cent	Amount					Per-cent
1940	3, 739	3, 507	1, 403	40.0	2, 104	60.0	27	86	1.17	0.92
1945	3, 451	3, 237	1, 067	51.5	1, 570	48.5	22	70	1.28	1.06
1950	5, 803	5, 521	3, 279	59.4	2, 242	40.6	36	112	1.23	1.06
1954	6, 103	5, 732	3, 433	59.9	2, 299	40.1	36	122	1.17	0.98
1955	6, 484	6, 173	3, 827	62.0	2, 346	38.0	40	132	1.16	0.97
1956	6, 807	6, 320	3, 925	62.1	2, 395	37.9	41	135	1.16	0.96
1957	6, 768	6, 300	3, 843	61.0	2, 457	39.0	40	138	1.17	0.95
1958	6, 515	6, 059	3, 635	60.0	2, 424	40.0	39	135	1.14	0.93
1959	7, 073	6, 578	4, 026	61.2	2, 552	38.8	42	141	1.13	0.93
1960	7, 332	6, 819	4, 160	61.0	2, 659	39.0	43	142	1.12	0.91

<sup>1</sup> Apparent consumption; equals production plus imports minus exports adjusted for year-end change in newspaper publishers' inventories and domestic mill stocks. <sup>2</sup> Based on information of Media Records for 62 cities.

<sup>3</sup> Circulation of 100,000 or more.

Source: Department of Commerce, Business and Defense Services Administration.

NO. 698. DAILY AND SUNDAY NEWSPAPERS—NUMBER AND CIRCULATION, 1940 TO 1960, AND BY STATES, 1960

[Circulation figures in thousands. As of October 1. Beginning 1956, includes Alaska and Hawaii. For English language newspapers only. See also *Historical Statistics, Colonial Times to 1957*, series R 169-172]

YEAR AND STATE	DAILY NEWSPAPERS						SUNDAY NEWSPAPERS	
	Total		Morning		Evening		Number	Net paid circulation
	Number	Net paid circulation	Number	Net paid circulation	Number	Net paid circulation		
1940.....	1,878	41,132	380	16,114	1,498	25,018	525	32,371
1945.....	1,749	48,384	330	19,240	1,419	29,144	485	39,860
1950.....	1,772	53,829	322	21,266	1,450	32,563	549	46,582
1955.....	1,760	56,147	316	22,183	1,454	33,964	541	46,448
1956.....	1,772	57,318	315	22,538	1,464	34,780	550	47,244
1957.....	1,766	58,029	310	23,218	1,463	34,812	547	47,134
1958.....	1,756	57,594	308	23,207	1,460	34,388	558	47,041
1959.....	1,755	58,300	306	23,547	1,455	34,753	564	47,848
1960								
United States <sup>1</sup> .....	1,763	58,882	312	24,029	1,459	34,853	563	47,699
Alabama.....	19	671	4	214	15	458	14	560
Alaska.....	6	51			6	51	1	4
Arizona.....	13	317	3	166	10	151	5	249
Arkansas.....	35	383	6	145	29	237	11	313
California.....	129	5,096	18	2,008	111	3,088	28	3,953
Colorado.....	24	616	3	206	21	410	8	619
Connecticut.....	25	793	6	220	19	573	6	473
Delaware.....	3	117	1	32	2	84		
Dist. of Columbia.....	3	862	1	403	2	459	2	770
Florida.....	45	1,616	15	966	30	650	30	1,469
Georgia.....	29	921	6	401	23	519	10	802
Hawaii.....	5	202	1	64	4	138	3	188
Idaho.....	115	149	4	69	12	81	5	114
Illinois.....	83	3,853	9	1,842	74	2,011	18	3,015
Indiana.....	88	1,624	9	437	79	1,187	18	1,085
Iowa.....	145	944	4	289	42	655	9	831
Kansas.....	152	630	5	211	48	418	15	370
Kentucky.....	123	728	7	320	22	408	13	535
Louisiana.....	18	732	4	351	14	382	8	592
Maine.....	9	249	5	194	4	55	1	98
Maryland.....	12	771	4	234	8	537	3	662
Massachusetts.....	150	2,360	6	901	45	1,460	8	1,464
Michigan.....	54	2,022	1	501	53	1,520	11	1,065
Minnesota.....	31	1,083	5	388	26	605	5	934
Mississippi.....	20	288	4	78	16	210	8	176
Missouri.....	53	1,835	7	775	46	1,059	13	1,452
Montana.....	18	172	4	100	14	72	10	154
Nebraska.....	20	466	3	167	17	299	5	343
Nevada.....	8	90	2	35	6	55	3	74
New Hampshire.....	19	124	1	24	9	99	1	42
New Jersey.....	27	1,465	5	412	22	1,053	10	979
New Mexico.....	19	186	1	47	18	139	13	156
New York.....	88	8,572	22	4,901	66	3,671	20	9,276
North Carolina.....	47	1,096	9	542	38	555	15	735
North Dakota.....	11	160	2	35	9	125	2	87
Ohio.....	94	3,375	8	836	86	2,539	20	2,074
Oklahoma.....	51	733	7	309	44	424	41	657
Oregon.....	21	559	4	235	17	324	7	528
Pennsylvania.....	123	4,212	28	1,433	97	2,778	14	3,225
Rhode Island.....	7	297	1	61	6	236	2	198
South Carolina.....	17	493	8	344	9	148	7	374
South Dakota.....	13	166	2	6	11	161	4	114
Tennessee.....	30	1,053	7	486	23	566	12	786
Texas.....	116	2,931	24	1,239	92	1,692	79	2,563
Utah.....	5	238	1	101	4	137	4	237
Vermont.....	9	92	2	53	7	40	1	12
Virginia.....	31	889	9	403	22	486	12	590
Washington.....	27	969	6	337	21	632	10	833
West Virginia.....	30	487	9	234	21	253	8	366
Wisconsin.....	38	1,156	3	265	35	891	6	895
Wyoming.....	10	75	6	37	4	38	4	38

<sup>1</sup> Adjusted to account for all-day papers listed in morning and evening figures (circulations divided between them).

<sup>2</sup> Adjusted to allow for duplication of Texarkana, Ark.-Tex. and Bristol, Tenn.-Va., in individual State tabulations (circulations divided between States), and Covington, Ky., papers also included in Ohio.

Source: Editor and Publisher, New York, N. Y.; *International Year Book Number*, 1961.

No. 699. BOOKS AND PAMPHLETS—QUANTITY AND VALUE OF SALES BY ALL BOOK PUBLISHERS: 1947, 1954, AND 1958

[Excludes Alaska and Hawaii. Includes number of copies sold and dollar receipts reported not only by establishments classified in the "Books, publishing and printing" industry but also by establishments reporting these receipts as "secondary" activities in other industries. Detail does not add to total because of reclassification of items from census to census. "N.e.c." means not elsewhere classified]

PRODUCT	1947		1954		1958	
	Copies sold	Receipts	Copies sold	Receipts	Copies sold	Receipts
<b>Total</b> .....	1,000	\$1,000	1,000	\$1,000	1,000	\$1,000
	455,790		665,419		1,010,713	
<b>Books</b> .....	487,216	435,134	770,840	628,551	903,030	950,751
Textbooks:						
Elementary:						
Hardbound.....			40,541	57,365	47,549	76,632
Paperbound.....			23,037	10,242	26,778	11,603
High school:	74,254	55,008				
Hardbound.....			15,627	31,927	23,057	58,191
Paperbound.....			2,587	2,118	2,533	2,024
College:						
Hardbound.....			14,538	50,241	19,554	81,377
Paperbound.....	23,821	52,513	1,286	1,484	3,095	2,767
Workbooks, paperbound.....	41,010	13,227	159,373	126,902	176,572	140,300
Standardized tests (incl. answer sheets), paperbound.....	(2)	(2)	(2)	(2)	297,049	28,678
Subscription reference books, hardbound.....	14,626	63,851	25,800	89,825	30,650	152,794
Religious books:						
Bibles, complete editions.....						
Testaments.....	9,248	9,285	11,359	19,125	8,903	18,318
Hymnals and devotionals (incl. prayer books and missals).....			(4)	3,048	10,181	4,746
Other religious books:						
Hardbound.....	33,295	19,608	(4)	(4)	5,103	8,064
Paperbound.....			(4)	(6)	9,815	15,999
Technical, scientific, and professional books:						
Law books.....					3,702	36,400
Medical books (incl. nursing and dental subjects).....	17,467	45,837	19,217	63,635	2,423	21,400
Business books.....					2,080	9,400
Other.....					15,596	48,821
General books:						
Publishers' sales of books or sheets to book clubs.....	(4)	(4)	(4)	(4)	65,180	95,684
Book club books.....	(7)	(7)	(7)	(7)		47,680
Wholesale paperbound books, digest size.....	(6)	(6)	(6)	(6)	232,585	
Adult trade books:						
Hardbound.....	32,345	46,131	786,314	1132,117	32,298	64,669
Paperbound.....	108,069	23,832	188,239	36,049	5,661	5,374
Juvenile books:						
\$1.00 and over.....					34,321	40,218
Under \$1.00.....	53,752	20,289	220,114	50,835	137,750	21,114
All other books, n.e.c.:						
Hardbound.....	770,329	785,493	5,453	15,489	44,943	62,923
Paperbound.....			38,366	23,316	25,925	12,737
<b>Pamphlets</b> .....	2402,290	220,656	2267,088	225,094	452,260	31,118
Religious.....					212,140	11,608
Other.....					240,120	19,450
<b>Other books and pamphlets, not specified by kind</b> .....				11,774		20,166

<sup>1</sup> 1954 and 1958 may not be strictly comparable since 1954 includes 4,621,000 hardbound books and \$2,805,000 receipts.

<sup>2</sup> In 1954 "educational and other standardized tests" were included with "pamphlets." The 97,049 thousand copies sold in 1958 are excluded from the 1958 total of 903,030 thousand copies of "books;" likewise the \$8,678 thousand receipts are excluded from the "books" total for both years.

<sup>3</sup> Since these books are frequently sold direct to consumers, some publishers reported receipts on a retail basis; hence, aggregate receipts for this type of book are a combination of wholesale and retail values but do represent total receipts at publishing plant level. Also, since books in this category are typically sold on an installment plan basis, the values reported here (actual receipts during the year) may not agree with publishers' sales for same reporting period. 1958 receipts not strictly comparable with prior years since deductions were made in 1958 for known payments for salesmen's compensation and operating expenses for sales offices and sales branches maintained to assist in door-to-door distribution. Copies sold represent number of volumes rather than sets. Also, for 1958, some dictionaries and other single volume books sold direct to the consumer were included in "All other books, n.e.c."

<sup>4</sup> Not available. <sup>5</sup> Excludes prayer books.

<sup>6</sup> "Other religious books, paperbound" included in "All other books, n.e.c."

<sup>7</sup> For 1947, "Book club books" included in "All other books, n.e.c.;" for 1954, included in "Adult trade books, hardbound."

<sup>8</sup> "Wholesaled paperbound books" included in "Adult trade books, paperbound."

Source: Department of Commerce, Bureau of the Census; *U.S. Census of Manufactures: 1954*, Series MC-27A, and *U.S. Census of Manufactures: 1958*, Series MC-(P)-27A.

# NO. 700. NEW BOOKS AND NEW EDITIONS PUBLISHED, BY SUBJECT: 1950, 1955, AND 1960

[Includes some books published in Alaska and Hawaii. Based on reports from approximately 800 publishers. To assure as complete a coverage as possible, reports are checked against book reviews and notices and against card index of the Library of Congress. New books are new titles; new editions are revisions of trade or textbooks, and cheaper editions of original trade books. Excludes pamphlets, theses, reports and reprint (containing no change whatsoever from original publication). Beginning 1960, data not comparable with prior years because of change in definition of a book. See also *Historical Statistics, Colonial Times to 1857*, series R 165-167]

SUBJECT	1950			1955			1960		
	Total	New books	New editions	Total	New books	New editions	Total	New books	New editions
<b>Total</b> .....	11,022	8,634	2,388	12,589	10,226	2,363	15,012	12,069	2,943
Agriculture, gardening.....	152	111	41	168	125	43	156	121	35
Biography.....	603	538	65	833	735	98	879	746	133
Business.....	250	190	60	312	228	84	305	240	65
Education.....	256	209	47	274	231	43	348	308	40
Fiction.....	1,907	1,211	696	2,073	1,459	614	2,440	1,642	798
Fine arts.....	357	317	40	347	305	42	470	422	48
Games, sports.....	188	153	35	200	175	25	286	233	53
General literature and criticism.....	591	510	81	660	529	131	736	560	176
Geography, travel.....	288	221	67	366	290	76	466	372	94
History.....	516	456	60	665	572	93	805	695	170
Home economics.....	193	150	43	255	205	50	197	155	42
Juvenile.....	1,059	907	152	1,485	1,372	113	1,725	1,628	97
Law.....	298	228	70	305	240	65	304	303	01
Medicine, hygiene.....	443	312	131	534	407	127	520	388	132
Music.....	113	88	25	103	85	18	98	82	16
Philology.....	148	102	46	168	118	50	228	163	65
Philosophy, ethics.....	340	278	62	314	244	70	480	333	147
Poetry, drama.....	531	453	78	493	423	70	492	404	88
Religion.....	727	626	101	849	747	102	1,104	983	121
Science.....	705	499	206	801	623	178	1,089	833	256
Sociology, economics.....	515	447	68	520	443	77	754	651	103
Technical and military.....	497	366	131	477	355	122	698	574	124
Miscellaneous.....	345	262	83	387	315	72	282	233	40

Source: R. R. Bowker Co., New York, N. Y. Monthly data published in *Publishers' Weekly*.

# NO. 701. REGISTRATION OF COPYRIGHTS, BY SUBJECT MATTER: 1940 TO 1960

[For years ending June 30. Data comprise copyrights issued to citizens of the United States and residents of foreign countries. For information on patents, see table 733. See also *Historical Statistics, Colonial Times to 1957*, series W 52-65]

SUBJECT MATTER OF COPYRIGHT	1940	1945	1950	1955	1959	1960
<b>Total</b> .....	176,997	178,848	210,564	224,732	241,735	243,926
Books.....	64,051	40,544	54,894	58,160	59,009	63,340
Printed in the United States.....	60,589	39,754	50,144	52,888	54,877	59,019
Books proper.....	11,976	6,962	11,323	49,142	51,835	55,713
Pamphlets, leaflets, etc.....	34,687	27,936	34,383			
Contributions to newspapers and periodicals.....	13,926	4,856	4,438	3,746	3,042	3,306
Printed abroad in a foreign language.....	2,504	111	3,710	3,694	3,549	3,740
English books registered for ad interim copyright.....	958	679	1,040	1,578	583	581
Periodicals (numbers).....	40,173	45,763	55,436	59,448	62,246	64,204
Lectures, sermons, addresses.....	1,276	1,177	1,007	813	829	835
Dramatic or dramatico-musical compositions.....	6,460	4,714	4,427	3,493	2,669	2,445
Musical compositions.....	37,975	57,835	52,309	57,527	70,707	65,568
Maps.....	1,622	857	1,638	2,013	1,865	1,812
Works of art, models, or designs.....	3,081	1,821	4,013	3,456	4,593	5,271
Reproductions of works of art.....	445	186	326	900	1,184	2,516
Drawings or plastic works of a scientific or technical character.....	2,817	1,554	1,316	1,350	603	768
Photographs.....	2,590	1,258	1,143	1,105	741	842
Prints and pictorial illustrations.....	4,699	2,634	4,309	3,793	3,186	3,349
Commercial prints and labels.....		7,403	13,320	10,505	8,786	8,136
Motion picture photoplays.....	800	615	782	1,216	2,757	2,755
Motion pictures not photoplays.....	811	1,120	1,113	1,434	967	702
Renewals of all classes.....	10,207	11,367	14,531	19,519	21,533	21,393

Source: The Library of Congress; *Annual Report*.

## Section 19

### Power and Scientific Development

This section presents statistics relating to the supply, production, and distribution of power and energy; expenditures for scientific research and development; patents and trademarks; atomic energy; and artificial satellites. The principal sources of these data are the Federal Power Commission, the Bureau of Mines of the Department of the Interior, the National Science Foundation, and the Atomic Energy Commission.

The Federal Power Commission publishes various statistical reports which present data on the production of electric energy classified by type of prime mover and on the capacity of all generating plants classified by type of prime mover. These reports also include statistics on quantities of basic fuels used (coal, oil, natural gas, etc.) and on water as an actual and potential source of power. The Commission's data cover both generation for public use by electric utilities and for use by the producer where generated by nonutility establishments. Data on sales, revenues, and numbers of customers by classes of service, on rates and typical bills, and related matters are also issued at regular intervals by the Commission. Monthly statistics on production, fuels used in production, sales by classes of service, salaries and wages, taxes, and other costs of production appear in the Commission's series entitled *Electric Power Statistics*.

The Federal Power Commission has uniform systems of accounts for public utilities subject to its jurisdiction and for its licensees. The Commission compiles data from the following periodic reports: Annual reports of electric utilities containing information as to assets, liabilities, revenues, generating capacity, and number of consumers; power system reports of electric utility systems presenting generating capacity, transmission facilities, and loads and load characteristics; monthly and annual reports containing such information as production of electricity for public use, fuel consumed, and stocks of fuel on hand; and reports from electric utilities and industrial corporations with respect to their electric power requirements and supply.

The Bureau of Mines' annual *Minerals Yearbook* presents statistics on coal, oil, and natural gas production and utilization. Other important sources of data include the semiannual reports of the Atomic Energy Commission; the American Gas Association, which in its monthly bulletins and annual statistical issues (such as *Gas Facts*) presents data on natural gas utilization and the production of manufactured gas from coal, oil, and similar products; and the *Statistical Bulletin* of the Edison Electric Institute, issued monthly and annually, which presents data on the distribution of electric energy by public utilities.

The National Science Foundation publishes regular reports on its recurring surveys of research and development by Federal Government agencies, industrial firms, colleges and universities, and other nonprofit institutions. Data on research and development obligations and expenditures of the Federal Government appear in the annual series, *Federal Funds for Science*. The Foundation surveys of research and development are a comparatively new statistical undertaking and pose particularly difficult problems of concept and definition. The data are therefore subject to certain limitations and should be regarded as broad estimates rather than precise quantitative statements (see the Foundation's pamphlet series, *Reviews of Data on Research & Development*).

**Alaska and Hawaii.**—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

**Historical statistics.**—Tabular headnotes (as "See also *Historical Statistics, Colonial Times to 1957*, series M 71-87) provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

# NO. 702. MINERAL FUELS AND WATER POWER—PRODUCTION AND CONSUMPTION, 1920 TO 1960, BY SOURCE

[In trillions of British thermal units. Beginning 1959, includes Alaska, and 1960, Hawaii. Data for production and consumption of bituminous coal include Alaska for all years. Unit heat values employed are: Anthracite, 12,700 B.t.u. per pound; bituminous coal and lignite, 13,100 B.t.u. per pound; petroleum, 5,800,000 B.t.u. per barrel; natural gas, total production multiplied by 1,075 B.t.u. minus repressuring vent and waste gas multiplied by 1,035. Water power includes installations owned by manufacturing plants and mines, as well as Government and privately owned public utilities. Fuel equivalent of water power calculated from kilowatt-hours of power produced wherever available, as is true of all public utility plants since 1919. Otherwise, fuel equivalent calculated from reported horsepower of installed water wheels, assuming capacity factor of 20 percent for factories and mines and of 40 percent for public utilities. See also *Historical Statistics, Colonial Times to 1957*, series M 71-87]

YEAR	Total	COAL			Natural gas <sup>2</sup>	Water power	PERCENT				
		Anthra- cite	Bitu- minous and lignite	Crude petro- leum <sup>1</sup>			Coal		Crude petro- leum <sup>1</sup>	Natural gas <sup>2</sup>	Water power
							Anthra- cite	Bitu- minous and lignite			
PRODUCTION											
1920-----	21,365	2,276	14,899	2,569	883	738	10.7	69.7	12.0	4.1	3.5
1925-----	21,607	1,570	13,625	4,430	1,314	668	7.2	63.1	20.5	6.1	3.1
1930-----	22,119	1,762	12,249	5,208	2,148	752	8.0	55.4	23.5	9.7	3.4
1935-----	19,803	1,325	9,756	5,780	2,136	806	6.7	49.2	29.2	10.8	4.1
1940-----	25,088	1,308	12,072	7,849	2,979	880	5.2	48.1	31.3	11.9	3.5
1945-----	32,333	1,395	15,134	9,939	4,423	1,442	4.3	46.8	30.7	13.7	4.5
1950-----	34,510	1,120	13,527	11,449	6,841	1,573	3.2	39.2	33.2	19.8	4.6
1955-----	38,900	665	12,174	14,410	10,204	1,447	1.7	31.3	37.1	26.2	3.7
1958-----	39,132	538	10,754	14,204	11,943	1,693	1.4	27.5	36.3	30.5	4.3
1959-----	40,935	524	10,795	14,933	13,036	1,647	1.3	26.4	36.5	31.8	4.0
1960 (prel.)-----	41,682	459	10,821	14,935	13,744	1,723	1.1	26.0	35.8	33.0	4.1
CONSUMPTION											
1920-----	19,782	2,179	13,325	2,634	869	775	11.0	67.4	13.3	4.4	3.9
1925-----	20,899	1,627	13,079	4,156	1,336	701	7.8	62.6	19.9	6.4	3.3
1930-----	22,288	1,718	11,921	5,652	2,212	785	7.7	53.5	25.4	9.9	3.5
1935-----	19,107	1,298	9,336	5,499	2,143	831	6.8	48.9	28.8	11.2	4.3
1940-----	23,908	1,245	11,290	7,487	2,969	917	5.2	47.2	31.4	12.4	3.8
1945-----	31,541	1,311	14,661	9,619	4,464	1,486	4.2	46.5	30.5	14.1	4.7
1950-----	34,153	1,013	11,900	12,706	6,933	1,601	3.0	34.8	37.2	20.3	4.7
1955-----	39,956	599	11,104	16,328	10,428	1,497	1.5	27.8	40.8	26.1	3.8
1958-----	41,493	483	9,607	17,428	12,235	1,740	1.2	23.1	42.0	29.5	4.2
1959-----	43,444	478	9,596	18,338	13,339	1,693	1.1	22.1	42.2	30.7	3.9
1960 (prel.)-----	44,864	429	9,928	18,616	14,125	1,766	1.0	22.1	41.5	31.5	3.9

<sup>1</sup> Includes commingled condensate. Consumption, beginning 1950, includes petroleum products (net imports).

<sup>2</sup> Marketed production; includes amount stored and lost in transmission. Consumption includes dry and liquids.

Source: Department of the Interior, Bureau of Mines; *Minerals Yearbook*. Current data also published in *Mineral Industry Surveys* and annual bulletin, *Bituminous Coal and Lignite*.

## NO. 703. TOTAL HORSEPOWER OF ALL PRIME MOVERS: 1930 TO 1960

[In thousands. Excludes Alaska and Hawaii, except as noted. Prime movers are mechanical engines and turbines, and work animals, which originally convert fuels or force (as wind or falling water) into work and power. Electric motors, which are secondary movers and obtain their power from prime movers, are excluded to avoid duplication. See also *Historical Statistics, Colonial Times to 1957*, series S 1-14]

ITEM	1930	1940	1950	1955	1960 <sup>1</sup>
Total horsepower.....	1,663,944	2,758,332	4,760,262	7,157,077	11,374,014
Automotive <sup>2</sup> .....	1,426,568	2,511,312	4,403,617	6,632,121	10,790,953
Nonautomotive.....	237,376	247,020	356,645	524,956	583,061
Work animals.....	17,080	12,510	7,040	4,141	3,100
Inanimate.....	219,716	234,610	349,605	520,815	579,961
Factories <sup>3</sup> .....	19,519	21,768	32,921	35,579	43,579
Mines.....	5,620	7,332	9,167	30,768	40,708
Railroads.....	109,743	92,361	110,969	60,304	45,456
Merchant ships, powered <sup>4</sup> .....	9,115	9,408	23,423	24,155	23,890
Sailing vessels <sup>5</sup> .....	100	26	11	5	2
Farms <sup>6</sup> .....	28,610	42,488	63,090	206,590	190,500
Windmills.....	200	130	59	59	459
Electric central stations.....	43,427	53,542	87,965	137,576	217,173
Aircraft <sup>7</sup> .....	3,882	7,455	22,000	25,779	36,534

<sup>1</sup> Includes Alaska and Hawaii.

<sup>2</sup> Includes passenger cars, trucks, buses, and motorcycles. <sup>3</sup> Electric motors not included.

<sup>4</sup> Excludes Alaska and Hawaii. 1955 data.

<sup>5</sup> Beginning 1940, not directly comparable with prior years.

<sup>6</sup> Excludes horses and other work animals, which are included with "work animals."

<sup>7</sup> Includes private planes and commercial airliners.

Source: For 1930-1950, The Twentieth Century Fund, J. F. Dewhurst and Associates, *America's Needs and Resources, A New Survey*; for 1955, John A. Waring, *Transactions of Canadian Sectional Meeting, World Power Conference, 1958*; and for 1960, estimates by John A. Waring.

## No. 704. PROJECTIONS OF ELECTRIC ENERGY REQUIREMENTS: 1959 TO 1980

[Excludes Alaska and Hawaii. Estimates assume prosperous peacetime conditions; exclude generation by industrial facilities and railways having generating facilities of their own]

YEAR	ENERGY USE			PEAK LOAD		
	Billion kw.-hr.	Percent increase		Million kw.	Percent increase	
		From 1959	For each interval		From 1959	For each interval
1959.....	715.6	-----	-----	129.0	-----	-----
1965.....	1,074.8	50.2	50.2	196.6	52.4	52.4
1970.....	1,379.2	92.7	28.3	252.0	95.3	28.2
1975.....	1,716.1	139.8	24.4	313.2	142.8	24.3
1980.....	2,083.6	191.2	21.4	379.8	194.4	21.3

Source: Federal Power Commission; Release No. 10,076, August 1960.

## No. 705. ELECTRIC ENERGY PRODUCTION AND INSTALLED GENERATING CAPACITY, BY CLASS OF OWNERSHIP AND TYPE OF PRIME MOVER: 1930 TO 1960

[For years ending December 31, except installed capacity as of December 31. Excludes Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series S 15-35 and S 44-69]

ITEM	1930	1935	1940	1945	1950	1955	1959	1960 (prel.)
<b>Production (1,000,000 kw.-hrs.)</b> .....	114,637	118,935	179,907	271,255	388,674	629,010	795,251	840,457
Electric utilities (for public use).....	91,112	95,287	141,837	222,486	329,141	547,038	710,006	752,861
By class of ownership:								
Privately owned.....	86,108	89,330	125,411	180,926	266,860	420,869	544,234	578,360
Percent of total.....	94.5	93.7	88.4	81.1	68.8	68.8	68.1	76.8
Publicly owned.....	5,003	5,958	10,426	41,560	62,281	126,169	165,772	174,501
Municipal.....	3,604	4,229	6,188	9,624	15,244	25,852	34,618	( <sup>1</sup> )
Federal.....	465	555	8,584	28,001	40,388	89,064	109,052	( <sup>1</sup> )
Cooperatives, power districts, State projects.....	518	732	1,175	3,146	5,793	11,253	22,102	( <sup>1</sup> )
Noncentral stations.....	416	442	479	790	857	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>1</sup> )
By source of energy (percent):								
Coal.....	55.8	48.0	54.6	51.7	47.1	55.1	53.3	53.5
Oil.....	3.1	4.2	4.4	3.5	10.3	6.8	6.6	6.1
Gas.....	6.9	7.6	7.7	8.9	13.5	17.4	20.7	21.0
Hydro.....	34.2	40.3	33.4	35.9	29.2	20.7	19.4	19.3
Industrial plants <sup>3</sup> .....	23,525	23,648	38,070	48,769	59,533	81,972	85,245	87,596
<b>Installed capacity (1,000 kw.)</b> .....	41,153	42,828	50,962	62,868	82,850	130,896	174,352	185,270
Electric utilities (for public use).....	32,384	34,436	39,927	50,111	68,919	114,472	156,841	167,477
By class of ownership:								
Privately owned.....	30,285	31,820	34,399	40,307	55,176	86,887	118,999	128,000
Percent of total.....	93.5	92.4	86.2	80.4	80.1	75.9	75.8	76.4
Publicly owned.....	2,069	2,615	5,528	9,804	13,743	27,585	37,842	39,477
Municipal.....	1,601	2,002	2,977	3,586	4,970	7,795	10,914	( <sup>1</sup> )
Federal.....	226	300	1,944	6,081	6,921	16,962	21,874	( <sup>1</sup> )
Cooperatives, power districts, State projects.....	154	175	435	891	1,538	2,828	5,054	( <sup>1</sup> )
Noncentral stations.....	118	139	173	245	314	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>1</sup> )
Industrial plants <sup>3</sup> .....	8,769	8,392	11,035	12,757	13,931	16,424	17,511	17,703
<b>TYPE OF PRIME MOVER</b>								
Electric utilities (for public use):								
Number of plants, total <sup>4</sup> .....	4,043	4,023	3,918	3,886	3,867	3,587	3,457	( <sup>1</sup> )
Hydro.....	1,446	1,476	1,474	1,505	1,458	1,381	1,353	( <sup>1</sup> )
Steam.....	1,626	1,424	1,163	1,057	1,051	1,045	1,049	( <sup>1</sup> )
Internal combustion.....	971	1,123	1,291	1,324	1,358	1,161	1,055	( <sup>1</sup> )
Production (1,000,000 kilowatt-hours):								
Hydro.....	91,112	95,287	141,837	222,486	329,141	547,038	710,006	752,861
Steam.....	31,190	38,372	47,321	79,970	95,938	112,975	137,781	145,513
Internal combustion.....	50,293	56,144	93,002	140,435	229,543	430,119	567,839	607,349
Installed capacity (1,000 kilowatts):								
Hydro.....	32,384	34,436	39,927	50,111	68,919	114,472	156,841	167,477
Steam.....	8,585	9,399	11,224	14,912	17,675	25,004	31,074	32,373
Internal combustion.....	23,386	24,471	27,775	34,113	49,333	87,112	123,085	132,313
Production per kilowatt of installed capacity (kilowatt-hours) <sup>5</sup> .....	414	566	928	1,087	1,911	2,355	2,682	2,791
	2,813	2,767	3,552	4,440	4,776	4,779	4,527	4,495

<sup>1</sup> Not available. <sup>2</sup> Distributed to other publicly owned classes.<sup>3</sup> Comprises production and capacity of industrial electric power plants of 100 kilowatts and over, including amounts for stationary electric power plants of railroads and railways.<sup>4</sup> Each prime mover type in combination plants counted separately. <sup>5</sup> Capacity in service at end of year.

Source: Federal Power Commission; annual summaries, industrial electric power summaries, related monthly reports, and records.

# **No. 706. ELECTRIC UTILITIES—INSTALLED GENERATING CAPACITY AND ELECTRIC ENERGY PRODUCTION, BY STATES: 1945 TO 1959**

[Installed capacity as of December 31; production for years ending December 31]

STATE	INSTALLED CAPACITY (1,000 kw.)				ENERGY PRODUCTION (1,000,000 kw.-hr.)			
	1945	1950	1955	1959	1945	1950	1955	1959
<b>United States<sup>1</sup>.....</b>	<b>50,111</b>	<b>68,919</b>	<b>114,472</b>	<b>156,841</b>	<b>222,486</b>	<b>329,141</b>	<b>547,638</b>	<b>710,006</b>
<b>New England.....</b>	<b>3,198</b>	<b>4,052</b>	<b>5,271</b>	<b>6,673</b>	<b>11,805</b>	<b>16,211</b>	<b>22,610</b>	<b>27,719</b>
Maine.....	332	415	623	734	1,349	1,680	2,405	2,810
New Hampshire.....	305	398	474	663	1,038	1,329	1,718	2,377
Vermont.....	175	204	261	262	832	735	981	805
Massachusetts.....	1,330	1,653	2,167	2,865	4,577	6,588	9,461	12,340
Rhode Island.....	283	359	401	423	910	1,056	1,955	1,603
Connecticut.....	773	1,022	1,345	1,727	3,091	4,223	6,091	7,782
<b>Middle Atlantic.....</b>	<b>10,510</b>	<b>13,225</b>	<b>18,218</b>	<b>23,810</b>	<b>46,678</b>	<b>63,372</b>	<b>86,140</b>	<b>107,201</b>
New York.....	5,361	6,257	8,469	11,597	22,003	29,452	39,533	49,101
New Jersey.....	1,571	2,053	2,914	3,928	7,325	9,921	12,306	17,311
Pennsylvania.....	3,578	4,916	6,835	8,285	17,350	24,000	34,301	40,789
<b>East North Central.....</b>	<b>11,506</b>	<b>16,083</b>	<b>25,976</b>	<b>34,681</b>	<b>50,921</b>	<b>75,349</b>	<b>125,853</b>	<b>158,523</b>
Ohio.....	3,250	4,430	7,459	10,024	14,706	21,967	35,955	47,957
Indiana.....	1,610	2,142	4,351	5,946	7,442	10,374	21,193	29,214
Illinois.....	3,058	4,506	6,955	8,895	14,020	20,686	35,967	41,683
Michigan.....	2,383	3,222	4,590	6,757	9,827	15,316	22,365	26,557
Wisconsin.....	1,205	1,783	2,622	3,059	4,926	7,006	10,343	13,112
<b>West North Central.....</b>	<b>3,466</b>	<b>5,024</b>	<b>7,930</b>	<b>10,587</b>	<b>12,728</b>	<b>19,237</b>	<b>30,463</b>	<b>41,001</b>
Minnesota.....	752	1,151	1,764	2,191	2,666	4,549	6,642	8,517
Iowa.....	761	1,173	1,654	1,898	2,876	4,428	6,212	7,611
Missouri.....	816	958	1,743	2,425	3,021	3,718	6,952	9,584
North Dakota.....	100	187	264	506	313	660	963	2,011
South Dakota.....	99	109	491	544	205	536	1,399	1,779
Nebraska.....	416	572	762	1,218	1,334	2,011	2,816	4,071
Kansas.....	521	814	1,353	1,804	2,254	3,335	5,478	7,429
<b>South Atlantic.....</b>	<b>6,557</b>	<b>8,857</b>	<b>15,131</b>	<b>21,091</b>	<b>28,285</b>	<b>43,604</b>	<b>71,220</b>	<b>98,131</b>
Delaware.....	39	28	224	425	43	20	1,366	2,270
Maryland.....	900	1,099	1,373	1,892	4,334	5,040	5,845	8,058
District of Columbia.....	458	508	533	533	1,681	1,660	1,627	1,275
Virginia.....	795	1,204	1,931	3,410	3,717	6,233	9,380	17,543
West Virginia.....	900	1,256	2,177	2,577	5,780	7,821	14,239	13,925
North Carolina.....	1,347	1,760	3,505	4,386	4,966	9,829	15,592	18,740
South Carolina.....	792	847	1,652	2,073	2,251	2,910	5,870	9,250
Georgia.....	716	1,156	1,675	2,243	2,901	5,235	7,705	10,966
Florida.....	550	999	2,062	3,551	2,613	4,847	9,593	16,105
<b>East South Central.....</b>	<b>3,434</b>	<b>4,464</b>	<b>11,657</b>	<b>15,968</b>	<b>16,596</b>	<b>24,606</b>	<b>66,530</b>	<b>82,077</b>
Kentucky.....	581	904	2,745	3,300	2,367	4,390	17,693	19,111
Tennessee.....	1,452	1,670	4,628	7,542	6,922	9,379	24,625	37,147
Alabama.....	1,327	1,690	3,654	4,200	7,099	9,577	21,348	22,962
Mississippi.....	74	200	631	926	208	1,260	2,864	2,857
<b>West South Central.....</b>	<b>2,694</b>	<b>4,717</b>	<b>9,449</b>	<b>14,658</b>	<b>13,682</b>	<b>22,515</b>	<b>40,823</b>	<b>59,315</b>
Arkansas.....	222	450	1,165	1,180	776	1,975	4,909	5,222
Louisiana.....	542	909	1,594	2,512	4,936	6,677	10,507	10,507
Oklahoma.....	457	723	1,200	2,203	2,255	2,927	5,337	7,765
Texas.....	1,473	2,636	5,430	8,763	7,401	12,076	23,900	35,760
<b>Mountain.....</b>	<b>2,647</b>	<b>3,445</b>	<b>6,106</b>	<b>8,189</b>	<b>11,974</b>	<b>16,497</b>	<b>24,155</b>	<b>34,047</b>
Montana.....	373	442	925	1,269	2,318	3,136	4,696	5,426
Idaho.....	267	445	781	1,255	1,263	2,538	3,907	6,018
Wyoming.....	82	139	236	359	261	595	724	1,448
Colorado.....	332	464	959	1,271	1,129	1,856	3,710	4,909
New Mexico.....	162	281	459	743	559	1,014	1,765	2,988
Arizona.....	668	843	1,626	1,965	3,437	3,489	5,535	7,882
Utah.....	171	235	523	620	417	659	2,377	2,888
Nevada.....	590	596	597	703	2,590	3,210	1,431	2,487
<b>Pacific.....</b>	<b>6,100</b>	<b>9,054</b>	<b>14,733</b>	<b>21,183</b>	<b>29,818</b>	<b>47,751</b>	<b>79,245</b>	<b>101,992</b>
Washington.....	1,814	2,765	4,074	6,444	9,690	17,371	24,030	30,427
Oregon.....	903	973	2,046	2,598	4,185	5,545	12,703	13,452
California.....	3,384	5,316	8,612	12,141	15,943	24,836	42,512	58,113

<sup>1</sup>Excludes Alaska and Hawaii.

Source: Federal Power Commission; annual summaries and related monthly reports.



**NO. 707. INSTALLED GENERATING CAPACITY OF ELECTRIC UTILITIES AND INDUSTRIAL PLANTS, BY TYPE OF PRIME MOVER AND CLASS OF OWNERSHIP, BY STATES: 1959**

[In thousands of kilowatts. As of December 31]

STATE	Total	TYPE OF PRIME MOVER				CLASS OF OWNERSHIP OF ELECTRIC UTILITIES				Industrial plants
		Electric utilities and industrial		Electric utilities		Total	Privately owned	Publicly owned		
		Fuel	Hydro	Fuel	Hydro			Municipal	Other	
United States <sup>1</sup>	174,352	142,558	31,794	125,767	31,074	156,841	118,999	10,914	26,928	17,511
New England.....	7,846	6,333	1,513	5,417	1,256	6,673	6,420	215	38	1,172
Maine.....	1,079	585	495	383	351	734	714	4	17	345
New Hampshire.....	752	306	446	265	398	663	659	4	-----	89
Vermont.....	283	84	199	75	187	262	245	16	-----	22
Massachusetts.....	3,362	3,133	229	2,679	186	2,865	2,710	145	9	497
Rhode Island.....	463	460	4	421	2	423	417	2	5	40
Connecticut.....	1,906	1,765	141	1,595	132	1,727	1,674	45	8	179
Middle Atlantic.....	26,165	23,690	2,475	21,415	2,395	23,810	22,640	231	939	2,355
New York.....	12,148	10,117	2,031	9,641	1,956	11,597	10,570	97	929	551
New Jersey.....	4,308	4,300	8	3,922	6	3,928	3,878	48	2	381
Pennsylvania.....	9,709	9,272	436	7,852	433	8,285	8,192	86	8	1,423
East North Central.....	38,826	37,895	931	33,847	834	34,681	32,442	1,894	345	4,145
Ohio.....	11,269	11,260	9	10,018	6	10,024	9,519	490	14	1,245
Indiana.....	6,646	6,614	32	5,914	32	5,946	5,583	363	-----	700
Illinois.....	9,563	9,522	42	8,857	38	8,895	8,584	274	37	668
Michigan.....	7,926	7,506	420	6,376	381	6,757	6,031	628	98	1,168
Wisconsin.....	3,422	2,993	428	2,681	377	3,059	2,724	138	196	363
West North Central.....	11,314	9,876	1,438	9,192	1,395	10,587	6,730	1,827	2,030	727
Minnesota.....	2,561	2,370	190	2,036	156	2,191	1,752	344	95	369
Iowa.....	2,027	1,890	136	1,762	136	1,898	1,497	296	105	129
Missouri.....	2,545	2,253	293	2,133	293	2,425	1,893	346	187	120
North Dakota.....	520	280	240	266	240	506	184	14	308	14
South Dakota.....	556	223	333	219	324	544	181	40	323	12
Nebraska.....	1,225	985	240	978	240	1,218	-----	254	964	7
Kansas.....	1,880	1,874	6	1,798	6	1,804	1,223	532	48	76
South Atlantic.....	24,203	20,415	3,788	17,484	3,607	21,091	18,615	1,037	1,439	3,112
Delaware.....	461	461	1	425	271	425	407	18	-----	36
Maryland.....	2,140	1,868	272	1,621	271	1,892	1,840	46	7	248
Dist. of Columbia.....	555	552	3	530	3	533	530	-----	3	22
Virginia.....	3,940	3,522	418	3,012	398	3,410	3,113	56	242	530
West Virginia.....	3,580	3,372	208	2,476	101	2,577	2,577	-----	-----	1,003
North Carolina.....	4,648	3,427	1,221	3,179	1,207	4,386	3,921	104	361	262
South Carolina.....	2,520	1,557	964	1,135	938	2,073	1,542	5	526	448
Georgia.....	2,512	1,852	660	1,597	646	2,243	2,000	16	228	269
Florida.....	3,846	3,804	43	3,508	43	3,551	2,686	792	74	295
East South Central.....	16,903	13,152	3,750	12,226	3,742	15,968	4,273	955	10,740	935
Kentucky.....	3,336	2,795	541	2,759	541	3,300	1,323	83	1,894	36
Tennessee.....	7,990	6,080	1,910	5,632	1,910	7,542	1,172	798	6,573	448
Alabama.....	4,569	3,269	1,299	2,909	1,291	4,200	1,926	1	2,273	369
Mississippi.....	1,008	1,008	-----	926	-----	926	852	74	-----	83
West South Central.....	18,287	17,339	947	13,714	944	14,658	12,072	1,494	1,093	3,628
Arkansas.....	1,431	1,040	391	792	388	1,180	783	76	322	251
Louisiana.....	3,592	3,592	-----	2,512	-----	2,512	2,228	284	-----	1,079
Oklahoma.....	2,253	2,088	165	2,037	165	2,203	1,796	121	286	50
Texas.....	11,011	10,620	391	8,373	390	8,763	7,264	1,014	485	2,248
Mountain.....	8,882	4,371	4,511	3,679	4,510	8,189	4,855	274	3,059	693
Montana.....	1,285	134	1,151	118	1,151	1,269	846	-----	423	16
Idaho.....	1,265	44	1,251	4	1,250	1,255	1,035	13	207	40
Wyoming.....	403	237	166	193	166	359	186	2	171	44
Colorado.....	1,367	1,115	251	1,020	251	1,271	870	149	252	96
New Mexico.....	812	787	25	723	25	748	597	57	94	64
Arizona.....	2,181	1,201	980	984	980	1,965	649	2	1,314	216
Utah.....	789	689	100	520	100	620	553	50	17	169
Nevada.....	750	162	588	116	587	703	120	1	582	48
Pacific.....	21,926	9,487	12,439	8,793	12,390	21,183	10,952	2,988	7,243	743
Washington.....	6,767	536	6,231	240	6,204	6,444	1,029	1,000	4,416	323
Oregon.....	2,774	355	2,418	200	2,398	2,598	795	51	1,761	176
California.....	12,386	8,596	3,789	8,354	3,788	12,141	9,129	1,936	1,076	244

<sup>1</sup> Excludes Alaska and Hawaii.

Source: Federal Power Commission; annual summaries and related monthly reports.

# **No. 708. ELECTRIC ENERGY—PRODUCTION BY ELECTRIC UTILITIES AND INDUSTRIAL PLANTS, BY TYPE OF PRIME MOVER AND CLASS OF OWNERSHIP, BY STATES: 1959**

[In millions of kilowatt-hours. For year ending December 31]

STATE	Total	TYPE OF PRIME MOVER				CLASS OF OWNERSHIP OF ELECTRIC UTILITIES				Industrial plants
		Electric utilities and industrial		Electric utilities		Total	Privately owned	Publicly owned		
		Fuel	Hydro	Fuel	Hydro			Municipal	Other	
United States 1	795,251	654,096	141,155	572,224	137,781	710,006	544,234	34,618	131,154	85,245
New England	31,499	25,401	6,098	22,858	4,861	27,719	27,009	585	124	3,780
Maine	4,381	1,823	2,558	1,054	1,766	2,810	2,752	17	42	1,570
New Hampshire	2,775	1,359	1,416	1,184	1,194	2,377	2,367	10	-----	398
Vermont	881	52	829	39	766	805	758	47	-----	76
Massachusetts	13,464	12,579	886	11,581	760	12,340	11,912	398	30	1,124
Rhode Island	1,745	1,737	8	1,596	7	1,603	1,563	4	85	142
Connecticut	8,252	7,852	401	7,404	378	7,782	7,657	108	18	470
Middle Atlantic	116,892	103,593	13,299	94,236	12,965	107,201	100,790	672	5,739	9,691
New York	52,086	40,592	11,494	37,917	11,184	49,101	43,079	309	5,713	2,986
New Jersey	18,668	18,633	35	17,284	27	17,311	17,148	153	9	1,357
Pennsylvania	46,138	44,368	1,770	39,035	1,754	40,789	40,563	210	16	5,349
East North Central	176,680	172,455	4,225	154,773	3,751	158,523	151,663	5,327	1,533	18,157
Ohio	53,762	53,737	25	47,946	11	47,957	46,478	1,432	47	5,805
Indiana	31,937	31,832	105	29,110	105	29,214	28,287	928	-----	2,728
Illinois	44,255	44,062	193	41,508	175	41,683	40,725	847	111	2,572
Michigan	31,941	30,071	1,870	24,830	1,727	26,557	24,303	1,784	470	5,384
Wisconsin	14,784	12,752	2,032	11,379	1,733	13,112	11,870	337	905	1,672
West North Central	44,228	38,309	5,919	35,268	5,733	41,001	29,126	4,165	7,710	3,228
Minnesota	10,019	9,078	941	7,739	778	8,517	7,523	793	201	1,502
Iowa	8,269	7,370	899	6,714	897	7,611	6,598	614	399	658
Missouri	10,126	9,710	416	9,168	416	9,584	8,142	813	630	542
North Dakota	2,068	714	1,353	657	1,353	2,011	486	12	1,512	57
South Dakota	1,801	515	1,287	513	1,265	1,779	494	25	1,260	22
Nebraska	4,082	3,080	1,002	3,069	1,002	4,071	-----	500	3,571	11
Kansas	7,864	7,843	21	7,408	21	7,429	5,884	1,408	137	436
South Atlantic	114,187	101,009	13,178	85,780	12,351	98,131	90,696	3,434	4,001	16,056
Delaware	2,442	2,442	( <sup>1</sup> )	2,270	-----	2,270	2,221	49	-----	172
Maryland	9,172	7,832	1,340	6,719	1,399	8,058	7,935	102	20	1,114
Dist. of Columbia	1,318	1,313	5	1,269	5	1,275	1,269	-----	6	43
Virginia	19,895	18,835	1,061	16,559	984	17,543	16,893	183	468	2,352
West Virginia	19,323	18,351	972	13,504	420	13,925	13,925	-----	5,399	-----
North Carolina	20,153	15,663	4,490	14,289	4,441	18,740	17,499	188	1,054	1,413
South Carolina	11,330	8,104	3,227	6,108	3,142	9,250	7,491	10	1,748	2,080
Georgia	12,693	10,904	1,789	9,243	1,724	10,966	10,554	54	359	1,726
Florida	17,862	17,566	295	15,810	295	16,105	12,909	2,849	347	1,757
East South Central	87,490	71,743	15,746	66,355	15,722	82,077	19,375	2,926	59,776	5,413
Kentucky	19,243	16,971	2,271	16,839	2,271	19,111	5,231	220	13,659	132
Tennessee	39,917	32,318	7,599	29,547	7,599	37,147	664	2,547	33,936	2,771
Alabama	24,909	19,034	5,876	17,111	5,851	22,962	10,781	-----	12,181	1,947
Mississippi	3,421	3,421	-----	2,857	-----	2,857	2,698	159	-----	563
West South Central	82,588	80,116	2,473	56,850	2,465	59,315	51,905	4,157	3,253	23,273
Arkansas	6,867	6,104	762	4,468	755	5,222	4,449	145	629	1,644
Louisiana	18,092	18,092	-----	10,567	-----	10,567	9,887	680	-----	7,525
Oklahoma	7,990	7,330	661	7,105	661	7,765	6,373	254	1,138	225
Texas	49,639	48,590	1,050	34,711	1,050	35,760	31,197	3,077	1,486	13,879
Mountain	36,725	18,191	18,533	15,515	18,532	34,047	20,810	918	12,319	2,678
Montana	5,470	258	5,212	214	5,212	5,426	3,455	-----	1,971	44
Idaho	6,171	162	6,019	( <sup>2</sup> )	6,018	6,018	4,839	76	1,103	153
Wyoming	1,583	872	711	737	711	1,448	726	( <sup>2</sup> )	722	136
Colorado	5,256	4,265	991	3,919	990	4,909	3,594	477	838	347
New Mexico	3,296	3,224	72	2,916	72	2,988	2,477	107	344	308
Arizona	8,656	5,405	3,251	4,631	3,251	7,882	2,504	7	5,372	774
Utah	3,705	3,386	319	2,569	319	2,888	2,631	190	67	817
Nevada	2,587	628	1,959	528	1,959	2,487	584	2	1,901	100
Pacific	104,961	43,278	61,683	40,590	61,402	101,992	52,859	12,433	36,699	2,969
Washington	31,653	1,024	30,629	-----	30,428	30,427	4,247	3,778	22,401	1,226
Oregon	14,115	622	13,492	40	13,412	13,452	3,232	190	10,030	662
California	59,194	41,632	17,562	40,551	17,562	58,113	45,380	8,466	4,268	1,081

<sup>1</sup> Excludes Alaska and Hawaii.

<sup>2</sup> Less than 500,000.

Source: Federal Power Commission; annual summaries and related monthly reports.

### No. 709. FEDERAL ELECTRIC UTILITY PROJECTS—INSTALLED CAPACITY AND INVESTMENT ALLOCATED TO ELECTRIC PLANT: 1955 TO 1959

[As of June 30. Beginning 1958, includes Alaska. Comprises only the electricity generating plant of these projects and excludes projects not primarily manufacturing electricity (e.g., West Point, Annapolis). Investments represent allocation to power projects for capital equipment and improvements. Reserves for depreciation have not been deducted]

PROJECT GROUP OR SYSTEM	INSTALLED CAPACITY (1,000 kw.)			INVESTMENT ALLOCATED <sup>1</sup> (\$1,000)		
	1955	1958	1959	1955	1958	1959
<b>Total</b> .....	<b>15,033</b>	<b>19,975</b>	<b>21,880</b>	<b>3,811,843</b>	<b>5,048,817</b>	<b>5,232,175</b>
Percent capacity of all electric utilities.....	13.1	14.0	14.0			
Central Valley: Bureau of Reclamation.....	522	630	630	134,081	136,663	136,350
Columbia Basin.....	3,619	5,370	5,761	1,020,600	1,548,466	1,584,118
Bonneville Power Administration (transmission).....				368,914	443,133	461,794
Bureau of Reclamation.....	2,259	2,271	2,282	218,084	282,043	281,243
Corps of Engineers.....	1,360	3,099	3,469	433,602	823,290	841,081
Hoover and Parker-Davis: Bureau of Reclamation.....						
Missouri Basin.....	1,595	1,595	1,595	205,598	207,013	207,160
Bureau of Reclamation.....	687	1,107	1,136	369,577	628,554	630,088
Corps of Engineers.....	362	362	391	214,278	259,747	281,309
Corps of Engineers.....	325	745	745	155,299	368,807	348,770
Southeastern Power Administration.....	1,031	1,247	1,247	259,142	391,740	400,609
Southeastern Power Administration (transmission).....						
Corps of Engineers.....	1,031	1,247	1,247	259,079	391,661	400,523
Southwestern Power Administration.....	426	501	601	144,629	175,615	223,613
Southwestern Power Administration (transmission).....						
Corps of Engineers.....	426	501	601	121,185	150,669	198,309
Tennessee Valley Authority.....	7,005	9,237	10,632	1,634,057	1,867,597	1,960,321
Other projects.....	148	288	288	44,159	93,169	89,016
Bureau of Reclamation.....	83	224	224	20,483	67,947	64,074
Corps of Engineers.....	18	18	18	11,834	11,845	11,846
Bureau of Indian Affairs.....	15	14	14	6,342	6,686	7,274
International Boundary and Water Commission.....	32	32	32	5,500	6,691	6,722

<sup>1</sup> Includes estimates.

Source: Federal Power Commission.

### No. 710. ELECTRIC UTILITIES—NUMBER OF ELECTRIC UTILITY SUPPLY SYSTEMS AND GENERATING PLANTS, BY CLASS OF OWNERSHIP: 1945 TO 1959

[As of December 31. Excludes Alaska and Hawaii. Duplications of establishments operating in two or more States have been eliminated. Each type of prime mover in combination generating plants counted separately; nonutility generating plants, approximately 2,300 in 1959, producing primarily for industrial use, are excluded]

ITEM	Total, all classes	Privately owned	Cooper- atively owned	PUBLICLY OWNED			
				Total	Municipal	Federal	Other <sup>1</sup>
<b>1945: Total electric supply systems</b> .....	<b>4,051</b>	<b>1,060</b>	<b>800</b>	<b>2,191</b>	<b>2,092</b>	<b>74</b>	<b>25</b>
Systems with generating plants.....	1,594	492	83	1,019	990	18	11
Number of generating plants.....	3,886	2,400	142	1,344	1,157	86	101
<b>1950: Total electric supply systems</b> .....	<b>4,007</b>	<b>821</b>	<b>963</b>	<b>2,223</b>	<b>2,077</b>	<b>55</b>	<b>91</b>
Systems with generating plants.....	1,495	393	92	1,010	955	13	42
Number of generating plants.....	3,867	2,334	166	1,367	1,136	83	148
<b>1955: Total electric supply systems</b> .....	<b>3,648</b>	<b>581</b>	<b>950</b>	<b>2,117</b>	<b>1,968</b>	<b>57</b>	<b>92</b>
Systems with generating plants.....	1,315	315	78	922	865	9	48
Number of generating plants.....	3,587	2,103	146	1,338	1,068	129	141
<b>1958: Total electric supply systems</b> .....	<b>3,391</b>	<b>456</b>	<b>926</b>	<b>2,009</b>	<b>1,875</b>	<b>46</b>	<b>88</b>
Systems with generating plants.....	1,253	277	68	908	815	45	48
Number of generating plants.....	3,481	2,025	142	1,314	1,032	145	137
<b>1959: Total electric supply systems</b> .....	<b>3,280</b>	<b>373</b>	<b>918</b>	<b>1,998</b>	<b>1,866</b>	<b>43</b>	<b>89</b>
Systems with generating plants.....	1,242	273	69	900	809	42	49
Number of generating plants.....	3,457	2,008	142	1,307	1,025	144	138

<sup>1</sup> Public utility districts and State projects.

Source: Federal Power Commission, annual summaries; and McGraw-Hill Publishing Co., Inc., New York, N.Y., *Directory of Electric Utilities*.

# No. 711. WATER POWER—DEVELOPED, 1920 TO 1959, AND ESTIMATED UNDEVELOPED, 1959, BY STATES

[In thousands of kilowatts. As of December 31]

STATE	DEVELOPED WATER POWER (capacity of actual installations only)										Estimated undeveloped water power, 1959
	Electric utilities only		Electric utilities and industrial plants								
			1939		1950			1959			
	1920	1930	Total	Utilities	Total	Utilities	Industrial	Total	Utilities	Industrial	
United States <sup>1</sup>	3,704	8,585	12,075	11,004	18,675	17,675	1,000	31,794	31,074	720	114,287
New England	291	753	1,115	833	1,299	971	268	1,513	1,256	257	2,858
Maine	40	174	301	188	391	270	121	495	351	143	1,407
New Hampshire	43	212	292	235	312	262	50	446	398	48	695
Vermont	49	156	173	158	192	177	15	199	187	12	454
Massachusetts	114	129	228	161	223	168	55	229	186	43	244
Rhode Island	2	2	14	3	11	3	8	4	2	1	—
Connecticut	44	79	107	88	107	89	18	141	132	9	158
Middle Atlantic	662	1,290	1,633	1,563	1,678	1,602	76	2,475	2,395	80	7,465
New York	540	1,074	1,229	1,165	1,225	1,155	70	2,031	1,956	75	3,035
New Jersey	1	1	6	3	9	6	3	8	6	2	225
Pennsylvania	120	215	399	395	444	441	3	436	433	3	3,305
East North Central	372	602	790	703	901	828	73	931	834	97	3,048
Ohio	17	13	16	12	16	12	4	9	6	3	342
Indiana	11	35	38	35	37	37	—	32	32	( <sup>2</sup> )	755
Illinois	43	50	51	49	54	49	5	42	38	3	1,212
Michigan	167	258	368	344	399	384	15	420	381	39	328
Wisconsin	134	247	318	263	396	347	49	428	377	51	411
West North Central	257	279	537	501	629	577	52	1,438	1,395	43	6,543
Minnesota	88	122	158	126	181	138	43	190	156	34	231
Iowa	138	124	127	127	137	137	—	136	136	( <sup>2</sup> )	433
Missouri	12	13	( <sup>2</sup> )	—	151	151	—	293	293	—	2,838
North Dakota	—	—	( <sup>2</sup> )	—	—	—	—	240	240	—	350
South Dakota	5	4	4	4	11	3	8	333	324	8	1,722
Nebraska	7	11	87	86	142	142	( <sup>2</sup> )	240	240	( <sup>2</sup> )	670
Kansas	7	6	9	7	6	6	—	6	6	—	290
South Atlantic	589	1,603	2,224	1,803	2,767	2,297	470	3,788	3,607	181	8,388
Delaware	—	—	( <sup>2</sup> )	—	—	—	1	1	1	1	—
Maryland	1	272	273	271	272	271	1	272	271	1	360
District of Columbia	—	2	3	2	3	3	—	3	3	—	—
Virginia	45	83	204	182	207	183	24	418	398	20	1,470
West Virginia	9	56	209	101	208	101	107	208	101	107	2,161
North Carolina	144	397	651	400	962	662	300	1,221	1,207	14	1,327
South Carolina	231	506	520	495	679	653	26	964	938	26	788
Georgia	155	271	349	337	425	412	13	660	646	13	2,210
Florida	4	14	14	14	13	13	—	43	43	—	60
East South Central	170	863	1,270	1,140	2,729	2,721	8	3,750	3,742	8	4,612
Kentucky	—	105	111	111	271	271	—	541	541	—	1,724
Tennessee	97	127	432	310	1,238	1,238	—	1,910	1,910	—	333
Alabama	72	632	727	719	1,220	1,212	8	1,299	1,201	8	2,145
Mississippi	—	—	—	—	—	—	—	—	—	—	410
West South Central	4	19	140	139	466	463	3	947	944	3	3,887
Arkansas	1	11	67	67	148	145	3	391	388	3	1,562
Louisiana	—	—	1	—	—	—	—	—	—	—	46
Oklahoma	1	2	2	2	74	74	—	165	165	—	793
Texas	2	6	71	71	245	245	( <sup>2</sup> )	391	390	( <sup>2</sup> )	1,486
Mountain	487	784	1,583	1,581	2,286	2,282	4	4,511	4,510	1	23,243
Montana	212	300	321	321	427	426	1	1,151	1,151	—	6,222
Idaho	135	225	257	257	441	440	1	1,251	1,250	( <sup>2</sup> )	8,957
Wyoming	2	12	47	47	70	79	—	166	166	—	972
Colorado	48	52	67	66	92	91	1	251	251	( <sup>2</sup> )	1,777
New Mexico	1	1	1	1	25	25	—	25	25	—	181
Arizona	23	87	293	293	541	541	—	980	980	—	3,937
Utah	58	98	93	92	94	94	—	100	100	—	1,072
Nevada	9	9	505	504	587	586	1	588	587	1	1,125
Pacific <sup>1</sup>	872	2,391	2,783	2,741	5,979	5,933	46	12,439	12,390	49	54,243
Washington	241	596	812	784	2,591	2,564	27	6,231	6,204	27	19,134
Oregon	65	156	286	278	783	766	17	2,418	2,398	20	5,823
California	566	1,640	1,685	1,680	2,606	2,604	2	3,789	3,788	2	10,300
Alaska	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	18,706
Hawaii	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	280

<sup>1</sup> Excludes Alaska and Hawaii, except for estimated undeveloped water power.

<sup>2</sup> Less than 500.

<sup>3</sup> Not available.

Source: Federal Power Commission; annual summaries and related monthly reports.

# **No. 712. ELECTRIC LIGHT AND POWER INDUSTRY—ENERGY GENERATED, SALES, REVENUE, AND CUSTOMERS: 1940 TO 1960**

[Beginning 1960, includes Alaska and Hawaii]

CLASS	1940	1945	1950	1955	1959	1960
Energy generated <sup>1</sup> .....million kilowatt-hours..	141,837	222,486	329,141	547,038	710,006	( <sup>2</sup> )
<b>Sales to ultimate customers.....do.....</b>	<b>118,643</b>	<b>193,558</b>	<b>280,539</b>	<b>480,921</b>	<b>628,743</b>	<b>683,199</b>
Residential or domestic.....do.....	23,317	34,184	67,030	120,524	173,414	189,911
Rural (distinct rural rates).....do.....	1,901	3,669	7,400	10,751	12,987	12,798
Commercial and industrial:						
Small light and power.....do.....	22,373	30,438	50,446	76,254	106,696	113,347
Large light and power.....do.....	59,557	107,490	139,065	253,711	308,789	339,951
All other.....do.....	11,405	17,777	16,598	19,681	24,857	27,192
<b>Revenue from ultimate customers...\$1,000,000...</b>	<b>2,440</b>	<b>3,342</b>	<b>5,086</b>	<b>8,020</b>	<b>10,573</b>	<b>11,516</b>
Residential or domestic.....do.....	896	1,167	1,932	3,187	4,338	4,686
Rural (distinct rural rates).....do.....	49	90	158	229	275	270
Commercial and industrial:						
Small light and power.....do.....	689	850	1,334	1,909	2,557	2,795
Large light and power.....do.....	631	1,002	1,405	2,360	2,952	3,267
All other.....do.....	174	232	258	336	450	498
<b>Ultimate customers, Dec. 31.....1,000...</b>	<b>30,191</b>	<b>34,031</b>	<b>44,986</b>	<b>52,559</b>	<b>57,505</b>	<b>58,870</b>
Residential or domestic.....do.....	24,952	28,117	37,533	44,409	48,968	50,099
Rural (distinct rural rates).....do.....	686	1,234	1,596	1,648	1,660	1,570
Commercial and industrial:						
Small light and power.....do.....	4,260	4,398	5,466	6,020	6,338	6,639
Large light and power.....do.....	178	162	235	310	343	352
All other.....do.....	115	119	156	172	196	210

<sup>1</sup> Figures obtained by Edison Electric Institute from Federal Power Commission.

<sup>2</sup> Not available.

Source: Edison Electric Institute, New York, N. Y.; annual statistical bulletin.

## **No. 713. CONSUMPTION OF FUELS BY ELECTRIC UTILITIES: 1920 TO 1960**

[For years ending December 31. Excludes Alaska and Hawaii. Use of fuels for stand-by purposes is included. See also *Historical Statistics, Colonial Times to 1957*, series S 30-43]

YEAR	Net generation by fuel <sup>1</sup>	FUEL CONSUMED								
		Total coal equivalent	Coal			Oil	Gas	Per kilowatt-hour		
			Total <sup>2</sup>	Bituminous	Anthracite			Coal	Oil	Gas
	Mil. kw.-hr.	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 42-gal. bbl.	Mil. cu. ft.	Lb.	Gal.	Cu. ft.
1920.....	23,495	35,791	31,640	30,099	1,540	12,690	22,136	3.0	0.254	36.9
1925.....	39,443	40,014	35,015	33,803	1,812	9,794	45,472	2.0	0.165	23.9
1930.....	59,583	47,545	40,278	38,130	2,148	8,805	119,553	1.60	0.132	19.0
1935.....	56,689	40,797	32,715	30,936	1,779	11,257	124,118	1.44	0.118	17.0
1940.....	93,963	62,942	51,474	47,721	2,348	16,325	180,096	1.34	0.112	16.5
1945.....	142,331	92,642	74,725	70,621	3,122	20,228	326,212	1.30	0.109	16.5
1950.....	232,813	138,421	91,871	86,855	3,609	75,420	628,919	1.19	0.094	14.1
1951.....	270,531	154,498	105,768	100,378	3,870	63,945	763,898	1.14	0.094	13.5
1952.....	293,640	160,872	107,071	101,795	3,762	67,218	910,117	1.10	0.095	13.3
1953.....	337,042	178,491	115,897	110,774	3,614	82,238	1,034,272	1.06	0.090	13.0
1954.....	364,354	180,367	118,385	113,600	3,166	66,745	1,165,498	0.99	0.089	12.4
1955.....	433,786	206,929	143,759	138,883	3,209	75,274	1,153,280	0.95	0.085	12.1
1956.....	478,487	223,733	158,279	153,492	3,296	72,711	1,239,311	0.94	0.085	11.9
1957.....	501,098	232,576	160,769	156,055	3,363	79,693	1,336,141	0.93	0.083	11.7
1958.....	504,497	228,136	155,724	151,756	2,786	77,668	1,372,853	0.90	0.081	11.5
1959.....	571,883	254,625	168,423	164,431	2,629	88,263	1,628,609	0.89	0.079	11.1
1960 (prel.)..	607,349	266,113	176,484	172,253	2,673	85,225	1,723,908	0.88	( <sup>4</sup> )	( <sup>4</sup> )

<sup>1</sup> Very limited output by use of wood and waste not included for years through 1959.

<sup>2</sup> Includes lignite, not shown separately.

<sup>3</sup> Includes 484,307,000 kwh from nuclear stations and 172,866,000 kwh from other sources.

<sup>4</sup> Not available.

Source: Federal Power Commission; annual summaries and related monthly reports.

## No. 714. FARM ELECTRIFICATION: 1940 TO 1959

[Excludes Alaska and Hawaii. Beginning 1950, data reflect change in Census definition of farm, which tends to decrease number of farms]

ITEM	1940	1945	1950	1955	1958	1959
Total number of farms <sup>1</sup> .....1,000.....	6,097	5,859	5,382	<sup>2</sup> 4,782	4,749	4,041
Total number of farms served, Dec. 31.....do.....	2,050	2,929	4,424	4,487	4,640	4,520
EASTERN FARMS						
Number of customers (farms served), average.....1,000.....	1,431	2,160	3,288	3,445	3,559	3,516
Sales, kilowatt-hours.....1,000,000.....	1,535	3,394	7,677	12,574	15,759	17,141
Revenue.....\$1,000,000.....	67	124	244	347	411	439
Kilowatt-hours per customer.....	1,073	1,571	2,335	3,650	4,428	4,875
Annual bill, average.....dollars.....	46.46	57.50	74.25	100.74	115.57	124.80
Revenue per kilowatt-hour.....cents.....	4.33	3.66	3.18	2.76	2.61	2.56
WESTERN FARMS <sup>3</sup>						
Number of customers (farms served), average.....1,000.....	414	638	958	1,009	1,057	1,056
Sales, kilowatt-hours.....1,000,000.....	1,820	2,514	4,632	8,254	8,916	9,812
Revenue.....\$1,000,000.....	36	53	88	147	171	178
Kilowatt-hours per customer.....	4,396	3,943	4,833	8,180	8,435	9,202
Annual bill, average.....dollars.....	85.72	82.41	92.31	146.42	161.95	168.19
Revenue per kilowatt-hour.....cents.....	1.95	2.09	1.91	1.79	1.92	1.81

<sup>1</sup> 1940-1955 are census figures and relate to Apr. 1 for 1940 and 1950, Jan. 1 for 1945, and Nov. for 1955; thereafter figures are Dept. of Agriculture estimates.

<sup>2</sup> 1954 data.

<sup>3</sup> "Eastern farms" are those located in the area not affected by heavy irrigation pumping and their statistics are a measure of use of electricity on the average farm. "Western farms" are those where irrigation may be involved. Possibly less than one-fifth of farms in irrigation States do actual pumping, but statistics are not available to make a more accurate separation. Figures for "Western farms," therefore, are more a reflection of fluctuation in the energy used than they are of the conventional farm requirements.

Source: Edison Electric Institute, New York, N. Y.; annual statistical bulletin.

## No. 715. RURAL ELECTRIFICATION ADMINISTRATION—ELECTRIC PROGRAM, SUMMARY OF OPERATIONS: 1935-1960

[Includes data from date of first loan to borrowers in Virgin Islands (1940), Alaska (1941), and Puerto Rico (1952)]

YEAR	LOANS APPROVED, CUMULATIVE, DEC. 31 <sup>1</sup>		SYSTEMS IN OPERATION, DEC. 31 <sup>2</sup>			BORROWERS' OPERATIONS DURING YEAR <sup>7</sup>			
	Borrowers <sup>2</sup>	Amount	Systems <sup>4</sup>	Miles energized <sup>5</sup>	Consumers served <sup>6</sup>	Energy generated	Energy purchased	Energy distributed	Revenue
	Number	Mil. dol.	Number	1,000 miles	1,000	Mil. kw.-hr.	Mil. kw.-hr.	Mil. kw.-hr.	Mil. dol.
1935.....	7	7	2	0	0				
1940.....	791	351	685	268	674	( <sup>8</sup> )	( <sup>8</sup> )	( <sup>8</sup> )	( <sup>8</sup> )
1945.....	961	667	848	450	1,409	258	2,345	2,136	74
1950.....	1,076	2,312	1,007	1,089	3,413	1,077	8,165	7,779	241
1951.....	1,076	2,484	1,016	1,179	3,666	1,413	9,999	9,738	285
1952.....	1,081	2,669	1,020	1,245	3,858	1,640	11,757	11,534	324
1953.....	1,078	2,778	1,022	1,297	4,025	2,103	13,738	13,755	366
1954.....	1,075	2,946	1,024	1,333	4,174	2,721	16,129	16,508	413
1955.....	1,077	3,125	1,026	1,362	4,251	3,255	18,457	19,200	455
1956.....	1,077	3,343	1,026	1,383	4,362	3,612	20,976	21,907	498
1957.....	1,079	3,634	1,030	1,405	4,466	3,291	23,335	23,745	531
1958.....	1,081	3,847	1,030	1,424	4,596	3,482	26,064	26,466	571
1959.....	1,085	4,011	1,032	1,446	4,722	4,464	29,366	30,403	627
1960 (prel.).....	1,087	4,256	1,037	1,465	4,826	4,740	32,374	33,454	675

<sup>1</sup> Net; i. e., excludes loans rescinded. For years prior to 1948, includes amounts not yet under loan contract.

<sup>2</sup> Organizations, mainly cooperatives, to which loans for extending central station electric service in rural areas are made.

<sup>3</sup> Includes data at time of repayment of loan for borrowers whose loans have been repaid in full. As of Dec. 31, 1960, there were 57 such borrowers, with 15,202 miles energized and 72,255 consumers served.

<sup>4</sup> Rural electric distribution, generation, and transmission systems operated by REA borrowers.

<sup>5</sup> Pole miles of electric distribution and transmission line in service.

<sup>6</sup> Through 1954, this item was headed "Consumers connected." The change was a result of a revised definition of a consumer as reported by REA borrowers, effective Jan. 1, 1955. It resulted in a downward adjustment in the national total of about 60,000 for 1955, chiefly through elimination of idle services.

<sup>7</sup> Includes energy sales and revenues of power sold by one REA borrower to another. <sup>8</sup> Not available.

Source: Department of Agriculture, Rural Electrification Administration; *Agricultural Statistics*.

# **No. 716. ELECTRIC UTILITIES—BALANCE SHEET AND INCOME ACCOUNT OF PRIVATELY OWNED CLASS A AND B COMPANIES: 1940 TO 1959**

[In millions of dollars. For years ending December 31. Beginning 1958, includes Alaska and 1959, Hawaii. Data cover reports of all companies having annual electric revenues in excess of \$250,000, representing approximately 98 percent of the privately owned industry. See also *Historical Statistics, Colonial Times to 1957*, series V 128-142]

ITEM	1940	1945	1950	1955	1956	1957	1958	1959
<b>COMPOSITE BALANCE SHEET</b>								
<b>Assets and other debits.....</b>	<b>15,579</b>	<b>14,568</b>	<b>20,590</b>	<b>31,081</b>	<b>33,341</b>	<b>36,498</b>	<b>39,384</b>	<b>42,212</b>
Utility plant and adjustments.....	14,407	14,491	21,443	33,709	36,446	39,991	43,485	46,852
Reserve for depreciation and amortization.....	1,918	3,065	4,385	6,406	6,902	7,570	8,203	8,973
Utility plant less reserves.....	12,494	11,426	17,056	27,303	29,484	32,421	35,282	37,874
Investment and fund accounts.....	1,380	1,089	1,235	1,933	1,937	1,979	1,008	1,058
Current and accrued assets.....	1,123	1,096	2,058	2,667	2,618	2,799	2,773	2,943
Other assets.....	582	357	239	277	303	208	321	337
<b>Liabilities and other credits.....</b>	<b>15,579</b>	<b>14,568</b>	<b>20,590</b>	<b>31,081</b>	<b>33,341</b>	<b>36,498</b>	<b>39,384</b>	<b>42,212</b>
Capital stock.....	6,571	6,062	7,944	11,231	11,878	12,487	13,286	14,100
Capital surplus.....	257	239	324	330	329	352	356	355
Earned surplus.....	860	766	1,346	2,191	2,414	2,718	3,042	3,356
Long-term debt.....	6,895	6,141	9,189	14,330	15,231	17,051	18,579	19,834
Current and accrued liabilities.....	692	965	1,527	2,381	2,627	2,804	2,781	2,965
Accumulated deferred taxes on income.....				201	483	694	920	1,158
Other liabilities.....	304	395	261	356	379	392	420	444
<b>COMPOSITE INCOME ACCOUNT</b>								
Electric operating revenues.....	2,404	3,171	4,784	7,199	7,780	8,308	8,708	9,498
Electric operating revenue deductions.....	1,667	2,409	3,828	5,702	6,173	6,603	6,856	7,465
Net electric operating revenues.....	737	763	956	1,497	1,607	1,705	1,852	2,040
Income from electric plant leased to others.....	8	5	5	3	3	3	3	2
Electric utility operating income.....	744	768	961	1,500	1,610	1,708	1,855	2,042
Other utility operating income.....	61	65	72	119	137	144	161	180
Total utility operating income.....	805	833	1,033	1,620	1,748	1,852	2,016	2,222
Other income.....	68	54	68	63	61	64	58	64
Gross income.....	873	887	1,101	1,683	1,808	1,916	2,074	2,286
Income deductions.....	325	353	279	439	476	503	555	630
Net income.....	548	534	822	1,244	1,332	1,413	1,519	1,656

<sup>1</sup> Less reserves.

Source: Federal Power Commission; annual report, *Statistics of Electric Utilities in the United States*.

# **No. 717. INVESTOR-OWNED GAS UTILITY AND PIPELINE INDUSTRY—COMPOSITE BALANCE SHEET AND INCOME ACCOUNT: 1940 TO 1959**

[In millions of dollars. Excludes Alaska and Hawaii. Represents companies owned by private investors. Excludes operations of companies distributing gas in bottles or in tanks]

ITEM	1940	1945	1950	1955	1956	1957	1958	1959
<b>COMPOSITE BALANCE SHEET</b>								
<b>Assets and other debits.....</b>	<b>4,980</b>	<b>5,610</b>	<b>9,010</b>	<b>15,435</b>	<b>16,885</b>	<b>19,150</b>	<b>20,730</b>	<b>22,845</b>
Utility plant and adjustments.....	4,330	4,770	7,020	13,305	14,490	16,155	17,465	19,200
Investment and fund accounts.....	200	185	360	525	630	1,030	1,180	1,300
Current and accrued assets.....	360	590	970	1,465	1,005	1,790	1,905	2,150
Deferred debits <sup>1</sup> .....	90	65	60	140	160	175	180	195
<b>Liabilities and other credits.....</b>	<b>4,980</b>	<b>5,610</b>	<b>9,010</b>	<b>15,435</b>	<b>16,885</b>	<b>19,150</b>	<b>20,730</b>	<b>22,845</b>
Capital stock.....	1,740	1,705	2,405	3,905	4,155	4,580	5,005	5,490
Long-term debt.....	1,575	1,495	3,145	5,900	6,390	7,465	8,005	8,740
Current and accrued liabilities.....	245	350	735	1,390	1,630	1,885	1,900	2,195
Reserve for depreciation, retirement, depletion, etc.....	870	1,400	1,740	2,775	3,055	3,280	3,690	4,065
Capital surplus.....	(2)	120	135	200	215	240	180	160
Retained income.....	(2)	375	720	1,040	1,180	1,320	1,480	1,660
Other liabilities and credits.....	550	165	130	225	260	380	410	535
<b>COMPOSITE INCOME ACCOUNT</b>								
Operating revenues.....	1,054	1,363	2,553	5,063	5,661	6,194	6,856	7,690
Operating revenue deductions.....	839	1,152	2,182	4,398	4,897	5,380	5,966	6,696
Net operating revenues.....	215	211	371	665	764	814	890	994
Income from utility plant leased to others.....	-1		1	2	2	2	2	3
Utility operating income.....	214	211	372	667	766	816	892	997
Other income (nonoperating).....	9	15	33	48	55	79	84	78
Gross income.....	223	226	405	715	821	895	976	1,075
Income deductions.....	78	74	88	206	221	268	308	343
Net income.....	145	152	317	509	600	627	668	732

<sup>1</sup> Includes capital stock discount and expense and reacquired securities. Subsequent to 1957, reacquired securities are deducted from the appropriate capital account.

<sup>2</sup> Not available.

Source: American Gas Association, New York, N. Y.; yearbook, *Gas Facts*.

### No. 718. GAS UTILITY INDUSTRY—CUSTOMERS AND REVENUES, BY CLASS OF SERVICE: 1935 TO 1960

[Excludes Alaska and Hawaii. Covers natural, manufactured, mixed, and liquid petroleum gas. Based on questionnaire mailed to all privately owned gas utilities and municipally owned gas departments in the United States, except those with annual revenues less than \$25,000, which in the aggregate account for only a negligible portion of the industry]

YEAR	CUSTOMERS (1,000) <sup>1</sup>					REVENUES (\$1,000,000) <sup>2</sup>				
	Total	Residential	Commercial	Industrial	Other	Total	Residential	Commercial	Industrial	Other
1935.....	15,819	14,725	1,014	72	8	727	503	91	130	2
1940.....	17,600	16,381	1,138	73	8	872	573	112	182	5
1945.....	19,977	18,607	1,278	80	12	1,153	705	149	281	18
1950.....	24,001	22,146	1,739	100	16	1,948	1,177	266	480	26
1954.....	27,528	25,398	1,990	112	28	3,049	1,783	378	821	68
1955.....	28,479	26,283	2,048	121	27	3,450	2,007	424	938	81
1956.....	29,536	27,241	2,141	125	29	3,850	2,237	471	1,066	77
1957.....	30,476	28,101	2,211	132	32	4,134	2,379	506	1,150	99
1958.....	31,242	28,787	2,287	134	35	4,568	2,658	571	1,229	111
1959.....	32,066	29,530	2,364	136	36	5,065	2,870	633	1,431	131
1960 (prel.)..	32,967	30,370	2,423	138	36	5,676	3,244	736	1,560	136

<sup>1</sup> Yearly averages. <sup>2</sup> Excludes revenues from sales for resale.

### No. 719. GAS UTILITY INDUSTRY—CUSTOMERS, SALES, AND REVENUES, BY TYPE OF GAS: 1958 TO 1960

[Excludes Alaska and Hawaii. See headnote, table 718]

TYPE OF GAS	CUSTOMERS (1,000) <sup>1</sup>			SALES (1,000,000 therms)			REVENUES (\$1,000,000) <sup>2</sup>		
	1958	1959	1960 (prel.)	1958	1959	1960 (prel.)	1958	1959	1960 (prel.)
All types.....	31,242	32,066	32,967	80,285	87,917	93,310	4,568	5,065	5,676
Natural gas.....	28,023	29,184	30,558	77,807	85,518	90,961	4,220	4,740	5,364
Manufactured gas.....	401	256	138	192	143	103	39	26	17
Mixed gas.....	2,643	2,476	2,142	2,220	2,196	2,186	294	285	281
Liquefied petroleum gas..	175	150	129	66	60	60	16	14	14

<sup>1</sup> Yearly averages. <sup>2</sup> Excludes revenues from sales for resale.

### No. 720. UTILITY GAS MAINS—MILEAGE, BY TYPE OF GAS AND BY TYPE OF MAIN: 1945 TO 1960

[As of December 31. Excludes Alaska and Hawaii. Excludes service pipe. Data not adjusted to common diameter equivalent]

TYPE OF GAS AND MAIN	1945	1950	1954	1955	1956	1957	1958	1959	1960 (prel.)
All types, total.....	310,670	387,470	470,490	496,740	525,220	548,820	571,500	599,910	629,200
Field and gathering.....	27,000	32,850	43,790	45,680	47,570	50,020	52,010	54,130	58,000
Transmission.....	82,190	113,050	138,980	145,970	153,820	160,110	165,360	174,360	184,200
Distribution.....	201,480	241,570	287,720	305,090	322,830	338,690	354,130	371,420	387,000
Natural gas.....	218,000	314,480	420,860	448,770	490,550	514,960	540,790	574,030	600,400
Field and gathering.....	27,000	32,850	43,790	45,680	47,570	50,020	52,010	54,130	58,000
Transmission.....	77,280	109,360	135,370	142,490	151,180	157,540	162,990	172,240	182,500
Distribution.....	113,720	172,270	241,700	260,600	291,800	307,400	325,790	347,660	368,840
Manufactured gas.....	72,000	55,420	14,240	11,960	6,760	6,350	4,460	1,810	1,170
Transmission.....	3,410	2,230	650	420	170	180	50	30	30
Distribution.....	68,590	53,190	13,590	11,540	6,590	6,170	4,410	1,780	1,140
Mixed gas.....	18,600	11,990	30,740	31,440	24,190	24,090	23,080	21,580	16,620
Transmission.....	1,490	1,370	2,890	2,990	2,410	2,320	2,250	2,070	1,600
Distribution.....	17,110	10,620	27,850	28,450	21,780	21,770	20,830	19,510	15,020
Liquefied petroleum gas..	2,010	5,580	4,650	4,570	3,720	3,420	3,170	2,490	2,010
Transmission.....	20	60	70	70	60	70	20	20	10
Distribution.....	1,990	5,490	4,580	4,500	3,660	3,350	3,100	2,470	2,000

Source of tables 718-720: American Gas Association, New York, N. Y.; yearbook, *Gas Facts*.



# **No. 721. GAS UTILITY INDUSTRY—CUSTOMERS AND REVENUES, BY TYPE OF GAS, CLASS OF SERVICE, AND STATES: 1959**

[See headnote, table 718]

TYPE OF GAS AND STATE	CUSTOMERS (1,000) <sup>1</sup>					REVENUES (\$1,000,000) <sup>2</sup>				
	Total	Resi- dential	Com- mer- cial	Indus- trial	Other	Total	Resi- dential	Com- mer- cial	Indus- trial	Other
<b>United States <sup>3</sup></b>	<b>32,065.9</b>	<b>29,529.6</b>	<b>2,363.9</b>	<b>136.3</b>	<b>36.1</b>	<b>5,065</b>	<b>2,870</b>	<b>633</b>	<b>1,431</b>	<b>131</b>
Natural gas.....	29,184.2	26,845.9	2,179.7	123.8	34.8	4,740	2,620	591	1,400	129
Manufactured gas.....	256.4	239.1	16.5	0.4	0.4	26	18	5	2	1
Mixed gas.....	2,475.6	2,309.5	153.2	12.0	0.9	285	222	33	29	1
L.P. gas.....	149.7	135.1	14.5	0.1	( <sup>4</sup> )	14	10	4	( <sup>5</sup> )	( <sup>5</sup> )
<b>New England.....</b>	<b>1,613.7</b>	<b>1,516.8</b>	<b>86.5</b>	<b>9.4</b>	<b>1.0</b>	<b>198</b>	<b>146</b>	<b>25</b>	<b>25</b>	<b>2</b>
Connecticut.....	375.5	351.1	22.1	2.2	0.1	49	34	6	9	( <sup>5</sup> )
Maine.....	34.4	32.7	1.6	0.1		4	3	( <sup>5</sup> )	( <sup>5</sup> )	
Massachusetts.....	993.3	934.7	52.6	5.3	0.7	121	92	16	12	1
New Hampshire.....	37.1	34.6	2.3	0.1	0.1	5	3	1	( <sup>5</sup> )	( <sup>5</sup> )
Rhode Island.....	156.0	147.1	7.1	1.7	0.1	18	13	2	3	( <sup>5</sup> )
Vermont.....	17.4	16.6	0.8		( <sup>4</sup> )	1	1	( <sup>5</sup> )	( <sup>5</sup> )	
<b>Middle Atlantic.....</b>	<b>7,534.1</b>	<b>6,987.4</b>	<b>507.9</b>	<b>29.3</b>	<b>9.5</b>	<b>982</b>	<b>673</b>	<b>131</b>	<b>168</b>	<b>10</b>
New Jersey.....	1,471.4	1,344.1	121.4	5.9	( <sup>4</sup> )	172	126	27	18	( <sup>5</sup> )
New York.....	3,933.2	3,646.3	265.5	14.9	6.5	430	310	65	48	7
Pennsylvania.....	2,129.5	1,997.0	121.0	8.5	3.0	380	237	39	102	3
<b>East North Central.....</b>	<b>7,101.0</b>	<b>6,605.7</b>	<b>459.4</b>	<b>27.0</b>	<b>8.9</b>	<b>1,266</b>	<b>797</b>	<b>156</b>	<b>304</b>	<b>10</b>
Illinois.....	2,208.2	2,084.0	110.6	12.1	1.5	354	229	31	94	1
Indiana.....	751.3	693.7	53.9	2.2	1.5	114	64	14	35	1
Michigan.....	1,461.7	1,348.2	108.0	5.5	( <sup>4</sup> )	269	183	37	49	1
Ohio.....	2,148.2	1,983.0	154.6	4.7	5.9	444	264	64	110	6
Wisconsin.....	531.6	496.8	32.3	2.5	( <sup>4</sup> )	85	57	11	16	1
<b>West North Central.....</b>	<b>2,576.4</b>	<b>2,348.5</b>	<b>211.8</b>	<b>15.0</b>	<b>1.1</b>	<b>496</b>	<b>279</b>	<b>68</b>	<b>133</b>	<b>17</b>
Iowa.....	423.6	381.0	41.4	1.1	0.1	88	49	16	20	2
Kansas.....	523.7	473.3	47.2	2.9	0.3	95	41	10	37	7
Minnesota.....	469.1	427.5	20.0	2.5	0.1	104	67	12	24	1
Missouri.....	793.9	736.7	53.9	3.2	0.1	131	80	16	32	2
Nebraska.....	279.4	243.8	30.2	5.0	0.4	60	31	9	16	4
North Dakota.....	38.2	34.3	3.8	0.1	( <sup>4</sup> )	6	3	2	( <sup>5</sup> )	( <sup>5</sup> )
South Dakota.....	58.5	51.9	6.3	0.2	0.1	13	7	3	3	( <sup>5</sup> )
<b>South Atlantic.....</b>	<b>2,377.9</b>	<b>2,181.8</b>	<b>182.9</b>	<b>8.3</b>	<b>4.9</b>	<b>410</b>	<b>227</b>	<b>52</b>	<b>125</b>	<b>7</b>
Delaware.....	62.6	59.4	3.1	0.1	( <sup>4</sup> )	8	6	1	1	( <sup>5</sup> )
District of Colum- bia.....	179.1	160.5	16.7	0.9	1.0	25	18	6	( <sup>5</sup> )	1
Florida.....	207.6	192.2	14.8	0.2	0.4	36	11	5	19	1
Georgia.....	507.8	465.9	38.8	3.0	0.1	89	42	10	35	1
Maryland.....	541.8	505.9	33.8	1.4	0.7	80	60	8	12	( <sup>5</sup> )
North Carolina.....	101.7	88.8	11.9	1.0	( <sup>4</sup> )	23	9	3	10	( <sup>5</sup> )
South Carolina.....	75.7	66.3	8.8	0.4	0.2	21	6	2	13	( <sup>5</sup> )
Virginia.....	349.0	321.6	25.7	0.8	0.9	60	38	8	12	2
West Virginia.....	352.6	321.2	29.3	0.5	1.6	68	36	8	22	2
<b>East South Central.....</b>	<b>1,420.9</b>	<b>1,284.9</b>	<b>128.4</b>	<b>4.7</b>	<b>2.9</b>	<b>278</b>	<b>125</b>	<b>36</b>	<b>107</b>	<b>10</b>
Alabama.....	438.8	406.8	30.4	0.8	0.8	83	37	8	37	1
Kentucky.....	413.0	374.7	36.4	0.7	1.2	71	41	10	17	2
Mississippi.....	262.4	232.8	27.8	1.6	0.2	53	19	6	26	2
Tennessee.....	306.7	270.6	33.8	1.6	0.7	72	28	12	27	6
<b>West South Central.....</b>	<b>3,712.7</b>	<b>3,351.4</b>	<b>327.5</b>	<b>28.2</b>	<b>5.6</b>	<b>601</b>	<b>219</b>	<b>53</b>	<b>306</b>	<b>23</b>
Arkansas.....	288.8	250.4	36.5	1.8	0.1	59	19	7	32	1
Louisiana.....	666.9	613.3	49.9	2.8	0.9	131	33	6	89	3
Oklahoma.....	583.5	523.9	54.7	3.5	1.4	81	41	10	22	8
Texas.....	2,178.5	1,963.8	186.4	20.1	3.2	331	126	30	164	11
<b>Mountain.....</b>	<b>1,198.2</b>	<b>1,070.7</b>	<b>120.9</b>	<b>4.4</b>	<b>2.2</b>	<b>221</b>	<b>104</b>	<b>36</b>	<b>75</b>	<b>7</b>
Arizona.....	279.0	252.1	25.3	1.4	0.2	41	16	5	19	( <sup>5</sup> )
Colorado.....	372.2	328.6	42.9	0.6	0.1	71	36	16	18	1
Idaho.....	17.5	13.6	3.8	0.1		10	2	2	6	
Montana.....	116.3	103.6	12.2	0.5	( <sup>4</sup> )	21	11	5	5	1
Nevada.....	21.9	20.8	1.1	( <sup>4</sup> )	( <sup>4</sup> )	7	2	1	4	( <sup>5</sup> )
New Mexico.....	170.3	152.1	15.4	1.3	1.5	34	13	4	12	4
Utah.....	157.6	143.6	13.7	0.3	( <sup>4</sup> )	28	17	2	8	( <sup>5</sup> )
Wyoming.....	63.4	56.3	6.5	0.2	0.4	11	6	2	3	1
<b>Pacific.....</b>	<b>4,531.0</b>	<b>4,182.4</b>	<b>338.6</b>	<b>10.0</b>	<b>(<sup>4</sup>)</b>	<b>612</b>	<b>301</b>	<b>75</b>	<b>190</b>	<b>46</b>
California.....	4,331.7	4,014.3	308.8	8.6	( <sup>4</sup> )	555	282	65	162	46
Oregon.....	102.0	89.3	11.9	0.8	( <sup>4</sup> )	21	10	4	8	( <sup>5</sup> )
Washington.....	97.3	78.8	17.9	0.6	( <sup>4</sup> )	36	10	7	19	( <sup>5</sup> )

<sup>1</sup> Averages for the year. <sup>2</sup> Excludes revenues from sales for resale. <sup>3</sup> Excludes Alaska and Hawaii.<sup>4</sup> Less than 50 customers. <sup>5</sup> Less than \$500,000.Source: American Gas Association, New York, N.Y.; yearbook, *Gas Facts*.

## No. 722. FUNDS FOR RESEARCH AND DEVELOPMENT: 1953-54 TO 1960-61

[Includes Alaska and Hawaii, except industry data prior to 1957-58. Hyphenated time periods indicate that data are for a variety of financial years beginning in the earlier year and ending during the later year. Data refer in general to the natural sciences; however, some funds for psychology and the social sciences could not be eliminated]

YEAR	Total	SOURCES OF FUNDS				PERFORMANCE OF RESEARCH AND DEVELOPMENT BY—			
		Federal Government <sup>1</sup>	Indus-try	Colleges and uni-versities <sup>2</sup>	Other non-profit insti-tutions <sup>2</sup>	Federal Govern-ment	Indus-try <sup>3</sup>	Colleges and uni-versities <sup>3</sup>	Other non-profit insti-tutions <sup>3</sup>
FUNDS (\$1,000,000)									
1953-54	5, 150	2, 740	2, 240	130	40	970	3, 630	450	100
1954-55	5, 620	(4)	(4)	(4)	(4)	950	4, 070	480	120
1955-56	6, 390	(4)	(4)	(4)	(4)	1, 090	4, 640	530	130
1956-57	8, 400	4, 930	3, 230	170	70	1, 280	6, 380	600	140
1957-58	10, 030	6, 380	3, 390	190	70	1, 440	7, 660	780	150
1958-59 (prel.)	10, 990	7, 050	3, 660	190	90	1, 730	8, 220	840	200
1959-60 (prel.)	12, 530	8, 100	4, 120	210	100	1, 840	9, 440	1, 000	250
1960-61 (prel.)	13, 350	(4)	(4)	(4)	(4)	1, 900	10, 000	1, 200	250
PERCENT OF TOTAL									
1953-54	100	53	44	2	1	19	70	9	2
1954-55	100	(4)	(4)	(4)	(4)	17	72	9	2
1955-56	100	(4)	(4)	(4)	(4)	17	73	8	2
1956-57	100	59	38	2	1	15	76	7	2
1957-58	100	63	34	2	1	14	76	8	2
1958-59 (prel.)	100	64	33	2	1	15	75	8	2
1959-60 (prel.)	100	64	33	2	1	15	75	8	2
1960-61 (prel.)	100	(4)	(4)	(4)	(4)	14	75	9	2

<sup>1</sup> Figures differ from those shown for Federal obligations for the conduct of research and development in tables 728 and 730 largely because the data here are based on reports by performers of research and development on the volume of Federal funds which they expended, whereas data in tables 728 and 730 are based on Federal agency responses on how much they obligated. Differences in concept of research and development, in accounting systems, and in financial year are possible sources of the difference in reporting. Furthermore, for the years preceding 1957-58, the industry survey definition of development was broader than that for the Federal survey with the consequence that industrial respondents reported receiving more funds for development from the Federal Government than the Federal agencies reported as obligating for this purpose.

<sup>2</sup> Includes State and local funds received by these institutions, and used for research and development.

<sup>3</sup> Includes funds from the Federal Government for research centers administered by organizations in this sector under contract with Federal agencies.

<sup>4</sup> Not available on a comparable basis.

Source: National Science Foundation.

## No. 723. FUNDS FOR BASIC RESEARCH: 1953-54 TO 1959-60

[See headnote, table 722]

YEAR	Total	SOURCES OF FUNDS <sup>1</sup>				PERFORMANCE OF BASIC RESEARCH BY—			
		Federal Government	Indus-try	Colleges and uni-versities <sup>2</sup>	Other non-profit insti-tutions <sup>2</sup>	Federal Government	Indus-try <sup>3</sup>	Colleges and uni-versities <sup>3</sup>	Other non-profit insti-tutions <sup>3</sup>
FUNDS (\$1,000,000)									
1953-54-----	432	195	147	62	28	47	151	208	26
1954-55-----	485	(4)	(4)	(4)	(4)	55	166	230	34
1955-56-----	547	(4)	(4)	(4)	(4)	65	189	250	43
1956-57-----	694	(4)	(4)	(4)	(4)	90	253	300	51
1957-58 (prel.)-----	835	423	249	111	52	111	272	392	60
1958-59 (prel.)-----	1,006	(4)	(4)	(4)	(4)	221	295	420	70
1959-60 (prel.)-----	1,149	(4)	(4)	(4)	(4)	225	344	500	80
PERCENT OF TOTAL									
1953-54-----	100	45	34	14	7	11	35	48	6
1954-55-----	100	(4)	(4)	(4)	(4)	11	34	48	7
1955-56-----	100	(4)	(4)	(4)	(4)	12	34	46	8
1956-57-----	100	(4)	(4)	(4)	(4)	13	37	43	7
1957-58 (prel.)-----	100	51	30	13	6	13	33	47	7
1958-59 (prel.)-----	100	(4)	(4)	(4)	(4)	22	29	42	7
1959-60 (prel.)-----	100	(4)	(4)	(4)	(4)	20	30	43	7

<sup>1</sup> Data on sources of funds are based on reports by the performers.

<sup>2</sup> Includes State and local funds received by these institutions and used for basic research.

<sup>3</sup> Includes funds from the Federal Government for research centers administered by organizations in this sector under contract with Federal agencies.

<sup>4</sup> Not available on a comparable basis.

Source: National Science Foundation.

# No. 724. PERFORMANCE OF RESEARCH AND DEVELOPMENT—INTERSECTORAL TRANSFERS OF FUNDS USED: 1959-60

[In millions of dollars. Includes Alaska and Hawaii. Preliminary data. For accounting years coinciding with calendar 1959 or ending by mid-1960. Based on reports by organizations performing research and development on the volume of funds used and the sources of these funds]

SOURCES OF RESEARCH AND DEVELOPMENT FUNDS USED	RESEARCH AND DEVELOPMENT PERFORMERS					Percent distribution, R&D sources
	Federal Government	Industry	Colleges and universities	Other nonprofit institutions	Total	
Federal Government.....	1,840	1 5,420	1 700	1 140	8,100	64
Industry.....		4,020	50	50	4,120	33
Colleges and universities <sup>1</sup> .....			210		210	2
Other nonprofit institutions <sup>2</sup> .....			40	60	100	1
<b>Total</b> .....	<b>1,840</b>	<b>1 9,440</b>	<b>1 1,000</b>	<b>1 250</b>	<b>12,530</b>	<b>100</b>
Percent distribution, research and development performance.....	15	75	8	2	100	

<sup>1</sup> Includes funds from the Federal Government for research centers administered by organizations in this sector under contract with Federal agencies.

<sup>2</sup> Data include State and local funds received by these institutions and used for research and development.

Source: National Science Foundation.

# No. 725. FUNDS FOR PERFORMANCE OF RESEARCH AND DEVELOPMENT, BY INDUSTRY: 1957 TO 1959

[In millions of dollars. Includes Alaska and Hawaii. Includes Federal funds for industrial research and development amounting to 57 percent of the 1959 total, part of which is accounted for by Federal contract research centers administered by industrial firms. Such research centers, which are classified in the industry of the administering company, were not covered in previously published statistics on the research and development performance of individual industries (for example, table 701, *Statistical Abstract, 1959*). Covers all industrial research and development performance with the exception of that performed by certain industry-oriented organizations, such as trade associations, that account annually for less than 1 percent of the total]

INDUSTRY	TOTAL RESEARCH AND DEVELOPMENT FUNDS			FEDERALLY FINANCED RESEARCH AND DEVELOPMENT PERFORMANCE		
	1957 <sup>1</sup>	1958 (prel.)	1959 (prel.)	1957	1958 (prel.)	1959 (prel.)
<b>Total</b> .....	<b>7,664</b>	<b>8,218</b>	<b>2 9,438</b>	<b>2 4,336</b>	<b>4,636</b>	<b>2 5,421</b>
Food and kindred products.....	67	79	92	(3)	(3)	(4)
Paper and allied products.....	45	50	59	(3)	(3)	(4)
Industrial chemicals.....	494	542	654	130	164	249
Drugs and medicines.....	104	128	151	(3)	2	3
Other chemicals.....	104	111	123	1	1	1
Petroleum refining and extraction <sup>2</sup> .....	224	241	260	16	12	16
Rubber products.....	106	89	111	37	23	42
Stone, clay, and glass products.....	59	64	73	1	2	2
Primary metals.....	111	125	137	6	13	14
Fabricated metal products.....	107	121	118	42	57	49
Machinery.....	687	778	910	252	316	382
Electrical equipment and communication <sup>3</sup> .....	1,775	1,947	2,227	1,196	1,331	1,550
Motor vehicles and other transportation equipment.....	702	849	863	212	318	249
Aircraft and parts.....	2,540	2,498	2,973	2,210	2,126	2,544
Scientific and mechanical measuring instruments.....	139	155	(4)	80	91	(4)
Optical, surgical, photographic, and other instruments.....	110	132	(4)	29	40	(4)
Other manufacturing industries <sup>4</sup> .....	150	158	(4)	76	84	(4)
Other nonmanufacturing industries, n.e.c. <sup>5</sup> .....	142	151	(4)	(4)	(4)	(4)

<sup>1</sup> Revised estimates differ from those previously published; see headnote.

<sup>2</sup> Includes data for industries which are not available separately.

<sup>3</sup> Less than \$500,000.

<sup>4</sup> Not available.

<sup>5</sup> Geological and geophysical exploration activities of petroleum companies are presently excluded from the definition of research and development.

<sup>6</sup> These 2 industries have been combined because of the similarity of their R and D activities.

<sup>7</sup> Includes ordnance, tobacco manufactures, textile mill products and apparel, lumber and wood products, furniture and fixtures, printing and publishing, leather, and miscellaneous manufacturing industries.

<sup>8</sup> Includes such nonmanufacturing industries as mining, construction, transportation, and miscellaneous services.

Source: National Science Foundation; data from a survey conducted by Bureau of the Census.

# No. 726. FEDERAL GOVERNMENT EXPENDITURES FOR SCIENTIFIC RESEARCH AND DEVELOPMENT, BY AGENCY: 1950 TO 1957

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii. Comprises expenditures for conduct of research and development and for increase of research and development plant. See also *Historical Statistics, Colonial Times to 1957*, series W 79-94]

AGENCY	1950	1951	1952	1953	1954	1955	1956	1957
Total expenditures:								
Including military pay and allowances and procurement funds.....	(1)	(1)	(1)	(1)	(1)	2,926	3,275	3,856
Excluding military pay and allowances and procurement funds.....	1,083	1,301	1,816	2,099	2,084	2,133	2,347	2,836
Department of Agriculture.....	53	52	57	55	55	72	88	97
Department of Commerce.....	12	17	10	14	11	10	20	20
Department of Defense:								
Including military pay and allowances and procurement funds.....	(1)	(1)	(1)	(1)	(1)	2,343	2,557	2,910
Excluding military pay and allowances and procurement funds.....	652	823	1,317	1,569	1,532	1,551	1,629	1,800
Department of Health, Education, and Welfare.....	240	253	64	65	63	70	86	144
Department of the Interior.....	32	32	33	35	39	32	36	42
Atomic Energy Commission <sup>2</sup> .....	221	243	250	262	274	290	385	512
National Advisory Committee for Aeronautics.....	55	62	67	79	90	74	71	76
National Science Foundation.....	(1)	(1)	1	2	4	9	15	31
All other agencies.....	18	18	19	19	17	26	17	25

<sup>1</sup> Not available.

<sup>2</sup> Public Health Service only; data for other offices not available.

<sup>3</sup> Data represent "accrued costs" rather than expenditures.

<sup>4</sup> Less than \$500,000.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

# No. 727. FEDERAL GOVERNMENT EXPENDITURES FOR SCIENTIFIC RESEARCH AND DEVELOPMENT, BY AGENCY: 1958 TO 1961

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii. Comprises expenditures for conduct of research and development and for increase of research and development plant. Data not comparable to table 726; see table 730, footnote 1]

AGENCY	1958	1959	1960 est.	1961 est.
Total expenditures:				
Including military pay and allowances and procurement funds.....	4,470	6,227	7,723	8,164
Excluding military pay and allowances and procurement funds.....	3,546	4,604	5,869	6,500
Department of Agriculture.....	112	125	132	141
Department of Commerce.....	18	30	34	46
Department of Defense:				
Including military pay and allowances and procurement funds.....	3,144	4,607	5,681	5,644
Excluding military pay and allowances and procurement funds.....	2,220	2,984	3,827	4,070
Department of Health, Education, and Welfare.....	180	253	320	367
Department of the Interior.....	49	72	73	77
Atomic Energy Commission <sup>1</sup> .....	804	877	1,007	1,055
National Aeronautics and Space Administration <sup>2</sup> .....	89	146	325	640
National Science Foundation.....	33	51	63	90
All other agencies.....	41	67	87	105

<sup>1</sup> Data represent "accrued costs" rather than expenditures.

<sup>2</sup> National Advisory Committee for Aeronautics prior to fiscal year 1958.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

# No. 728. FEDERAL GOVERNMENT OBLIGATIONS FOR SCIENTIFIC RESEARCH AND DEVELOPMENT: 1958 TO 1961

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii]

AGENCY	1958	1959	1960 est.	1961 est.
Total obligations:				
Including military pay and allowances.....	5,878	7,363	8,627	8,521
Excluding military pay and allowances.....	5,689	7,140	8,400	8,288
Conduct of research and development:				
Including military pay and allowances.....	5,542	6,934	8,022	7,968
Excluding military pay and allowances.....	5,353	6,711	7,795	7,735
Department of Agriculture.....	110	121	144	144
Department of Commerce.....	18	26	32	42
Department of Defense:				
Including military pay and allowances.....	4,374	5,404	6,073	5,546
Excluding military pay and allowances.....	4,185	5,181	5,846	5,313
Department of Health, Education, and Welfare.....	185	243	322	348
Department of the Interior.....	54	65	68	74
Atomic Energy Commission <sup>1</sup> .....	644	700	791	837
National Aeronautics and Space Administration <sup>2</sup> .....	77	262	425	787
National Science Foundation.....	33	54	72	84
All other agencies.....	47	60	96	107
Increase of research and development plant.....	336	429	605	553

<sup>1</sup> Data represent "accrued costs" rather than obligations.

<sup>2</sup> National Advisory Committee for Aeronautics prior to fiscal year 1958.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

# No. 729. FEDERAL GOVERNMENT OBLIGATIONS FOR CONDUCT OF RESEARCH, BY FIELD OF SCIENCE, 1956 TO 1961, AND BY AGENCY, 1960

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii. Excludes obligations for development and for increase in research and development plant (see table 730)]

YEAR AND AGENCY	Total research	LIFE SCIENCES			Psycho-logical sciences	PHYSICAL SCIENCES			Social sciences	Other sciences
		Bio-logical	Medical	Agricul-tural		Physical science proper	Mathe-matics	Engi-neering		
1956.....	844	55	99	44	(1)	(1)	(1)	(1)	(1)	(1)
1957.....	916	67	155	56	(1)	(1)	(1)	(1)	(1)	(1)
1958.....	1,034	70	214	59	(1)	(1)	(1)	(1)	(1)	(1)
1959.....	1,360	88	208	64	24	288	16	461	31	150
1960 <sup>2</sup> .....	1,903	104	348	71	31	380	22	662	34	251
1961 <sup>2</sup> .....	2,050	116	370	72	31	393	22	667	35	343
BY AGENCY, 1960 <sup>2</sup>										
Departments:										
Agriculture.....	139	18		68		28		8	17	
Commerce.....	21				(3)	13	(3)	5	3	(3)
Defense <sup>1</sup> .....	738	15	31		16	149	13	481	(3)	33
Army <sup>4</sup> .....	175	8	19		7	23	2	105	(3)	10
Navy.....	212	4	6		3	41	5	147		5
Air Force.....	269	3	6		6	36	5	200		14
Advanced Research Projects Agency.....	78					49	1	28		
Department-wide funds <sup>6</sup> .....	4									4
Health, Education, and Welfare.....	318	7	284	(3)	11	3	(3)	2	6	5
Interior.....	67	15	(3)	(3)		21	(3)	20	1	
Atomic Energy Commission <sup>7</sup> .....	214	25	18	1		130	4	37		
National Aeronautics and Space Administration.....	307	1				2		91		213
National Science Foundation.....	72	22	1		3	34	4	7	2	
All other agencies.....	36	(3)	15	1	1	2		12	5	

<sup>1</sup> Not available. <sup>2</sup> Estimated. <sup>3</sup> Less than \$500,000.

<sup>4</sup> Excludes pay and allowances of military personnel in research and development.

<sup>5</sup> Includes civil functions.

<sup>6</sup> Includes Weapons Systems Evaluation (Institute for Defense Analyses).

<sup>7</sup> Data represent "accrued costs" rather than obligations.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

# **No. 730. FEDERAL GOVERNMENT OBLIGATIONS FOR SCIENTIFIC RESEARCH AND DEVELOPMENT, BY CHARACTER OF WORK, 1956 TO 1961, AND BY AGENCY, 1960**

[In millions of dollars. For years ending June 30. Includes Alaska and Hawaii]

YEAR AND AGENCY	Total <sup>1</sup>	CONDUCT OF RESEARCH AND DEVELOPMENT				Increase of re- search and develop- ment plant
		Total <sup>1 2</sup>	Research		Develop- ment <sup>1</sup>	
			Total	Basic		
1956.....	2,693	2,419	844	201	1,388	273
1957.....	3,176	2,724	916	254	1,613	452
1958.....	5,878	5,542	1,034	331	4,320	336
1959.....	7,363	6,934	1,390	543	5,321	420
1960 <sup>3</sup> .....	8,627	8,022	1,903	747	5,892	605
1961 <sup>3</sup> .....	8,521	7,968	2,050	883	5,686	553
BY AGENCY, 1960 <sup>3</sup>						
Department of Agriculture.....	148	144	139	52	5	4
Department of Commerce.....	37	32	21	9	11	5
Department of Defense.....	6,171	6,073	738	132	5,108	97
Department of the Army.....	1,209	1,181	175	27	928	28
Research, development, test, and eval- uation appropriations.....	1,101	1,101	175	27	927	-----
Civil functions.....	2	2	1	(4)	1	1
Pay and allowances of military person- nel in research and development.....	78	78	-----	-----	-----	-----
Military construction.....	27	-----	-----	-----	-----	27
Department of the Navy.....	1,504	1,461	212	58	1,208	43
Research, development, test, and eval- uation appropriations.....	1,251	1,251	212	58	1,039	-----
Development, test, and evaluation support from procurement appropri- ations.....	169	169	-----	-----	169	-----
Pay and allowances of military person- nel in research and development.....	41	41	-----	-----	-----	-----
Military construction.....	43	-----	-----	-----	-----	43
Department of the Air Force.....	3,032	3,013	269	38	2,637	18
Research, development, test, and eval- uation appropriations.....	1,527	1,527	269	38	1,258	-----
Development, test, and evaluation support from procurement appropri- ations.....	1,379	1,379	-----	-----	1,379	-----
Pay and allowances of military person- nel in research and development.....	108	108	-----	-----	-----	-----
Military construction.....	18	-----	-----	-----	-----	18
Advanced Research Projects Agency.....	256	248	78	9	170	8
Departmentwide funds <sup>5</sup> .....	170	170	4	-----	165	-----
Department of Health, Education, and Welfare.....	362	322	318	100	4	40
Department of the Interior.....	71	68	57	20	11	3
Atomic Energy Commission <sup>6</sup> .....	1,111	790	214	112	577	321
Federal Aviation Agency.....	55	52	11	-----	41	4
National Aeronautics and Space Adminis- tration.....	534	425	307	244	117	109
National Science Foundation.....	87	72	72	72	-----	14
Veterans Administration.....	21	15	14	4	1	6
All other agencies.....	30	29	11	1	18	1

<sup>1</sup> Data for 1958 and subsequent years not comparable to previous years because of revision of definition of development. Revised definition states "Development is the systematic use of scientific knowledge directed toward the production of useful materials, devices, systems or methods, including design and development of prototypes and processes. It excludes quality control or routine product testing." The definition previously used stated that "Development is the systematic use of scientific knowledge directed toward the production of useful materials, devices, systems, methods, or processes exclusive of design and production engineering."

<sup>2</sup> Pay and allowances of military personnel included in totals but not distributed by character of work.

<sup>3</sup> Estimated.

<sup>4</sup> Less than \$500,000.

<sup>5</sup> Includes funds for Weapons Systems Evaluation (Institute for Defense Analyses), Mutual Weapons Development Program, and the Emergency Fund.

<sup>6</sup> Data represent "accrued costs" rather than obligations.

Source: National Science Foundation; annual report, *Federal Funds for Science*.

# No. 731. SCIENTISTS AND ENGINEERS IN PRIVATE INDUSTRY, BY INDUSTRY AND OCCUPATION: 1959

[For January. Includes Alaska, excludes Hawaii. Scientists and engineers were defined as all persons engaged in scientific and engineering work at a level which requires a knowledge of physical, natural, or mathematical sciences equivalent at least to that acquired through completion of a 4-year professional college course. Administrators of research and development and other activities are included with each occupation. Research and development was defined to include basic and applied research in the sciences (including medicine) and in engineering, and design and development of prototypes and processes]

INDUSTRY	Total	Engineers	Chemists	Metal- lur- gists	Earth scien- tists	Physi- cists	Math- emati- cians	Life scien- tists	Other scien- tists
<b>ALL SCIENTISTS AND ENGINEERS</b>									
<b>All industries</b> .....	764,100	615,400	71,500	11,400	14,800	14,900	11,300	18,200	6,600
Food and kindred products.....	10,200	4,100	3,900	(2)	(2)	(2)	100	1,600	300
Chemicals and allied products.....	83,100	36,600	31,100	700	300	1,200	600	9,600	3,000
Petroleum prod. and extraction.....	47,900	27,900	6,200	100	11,600	600	500	500	500
Primary metal products.....	33,200	23,300	3,900	5,000	300	200	100	100	200
Fabricated metal products and ordnance.....	34,700	31,800	1,600	300	-----	300	600	100	100
Machinery.....	67,400	62,200	1,000	1,300	-----	600	900	(2)	1,300
Electrical equipment.....	92,700	81,300	3,700	800	(2)	4,900	1,900	(2)	100
Aircraft and parts.....	94,900	83,100	2,600	1,300	(2)	4,000	3,300	100	400
Profess. and scientific instruments.....	23,700	19,000	2,700	200	100	1,100	200	200	300
Other manufacturing industries <sup>1</sup> .....	78,100	64,300	9,700	800	300	800	900	1,100	300
Nonmanufacturing industries.....	198,100	181,700	5,100	1,000	2,100	1,200	2,200	4,600	200
<b>RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS</b>									
<b>All industries</b> .....	277,100	205,500	38,900	5,200	4,800	12,700	6,900	6,200	600
Food and kindred products.....	3,700	900	2,000	(2)	-----	(2)	(2)	700	100
Chemicals and allied products.....	33,900	10,900	17,300	400	(2)	900	300	3,900	100
Petroleum prod. and extraction.....	9,500	4,900	3,400	(2)	400	400	200	100	(2)
Primary metal products.....	5,900	2,900	1,400	1,400	(2)	200	(2)	(2)	(2)
Fabricated metal products and ordnance.....	18,600	16,900	800	200	-----	300	500	(2)	(2)
Machinery.....	26,900	24,300	700	700	-----	600	600	(2)	(2)
Electrical equipment.....	52,600	43,700	2,700	600	(2)	4,200	1,400	(2)	(2)
Aircraft and parts.....	60,400	51,100	1,900	1,000	(2)	3,700	2,500	100	100
Profess. and scientific instruments.....	12,300	9,300	1,700	100	-----	900	100	200	100
Other manufacturing industries <sup>1</sup> .....	30,300	23,300	5,200	500	(2)	600	500	200	(2)
Nonmanufacturing industries.....	22,700	17,400	2,000	300	200	1,000	800	1,000	(2)

<sup>1</sup> It is estimated that these data cover more than 95 percent of all scientists and engineers in private industry.

<sup>2</sup> Less than 50. <sup>3</sup> Includes rubber products, formerly shown separately. <sup>4</sup> Small number employed reflects the exclusion of exploration from research and development under survey definition.

Source: National Science Foundation; data from a survey conducted by Bureau of Labor Statistics.

# No. 732. SCIENCE DOCTORATE DEGREES CONFERRED, BY MAJOR FIELD OF SCIENCE: 1957 TO 1960

FIELD OF SCIENCE	1957	1958	1959	1960 (prel.)
<b>Total</b> .....	4,950	4,973	5,316	5,635
<b>Life sciences</b> .....	1,638	1,582	1,621	1,762
Physiology and related.....	229	217	235	230
Microbiology.....	183	202	167	179
Genetics.....	53	66	81	77
Zoology.....	150	136	147	176
Botany and phytopathology.....	190	157	163	197
Agriculture and related.....	275	239	300	345
Biochemistry.....	238	229	204	271
Medical sciences.....	96	77	95	80
Miscellaneous life sciences.....	224	259	229	207
<b>Behavioral sciences</b> .....	787	839	870	834
Psychology.....	722	779	811	759
Anthropology.....	65	60	59	75
<b>Physical sciences</b> .....	2,525	2,552	2,825	3,039
Earth sciences.....	185	197	235	251
Mathematics.....	252	236	301	292
Physics (incl. astronomy).....	460	505	522	573
Chemistry.....	1,040	956	1,062	1,101
Engineering.....	588	658	705	822

Source: 1957-1959, National Science Foundation, *The Science Doctorates of 1958 and 1959*; 1960, National Research Council.

### No. 733. PATENT APPLICATIONS AND PATENTS AND CERTIFICATES OF TRADE-MARKS: 1931 TO 1960

[For years ending December 31. Data comprise patents issued to citizens of United States and residents of foreign countries. On July 1, 1940, jurisdiction of prints and labels was transferred to the Copyright Office, Library of Congress, and data concerning them are compiled by that organization. For information on copyrights, see table 701, p. 520. See also *Historical Statistics, Colonial Times to 1957*, series W 66-75 and W 77-78]

ITEM	1931-35	1936-40	1941-45	1946-50	1951-55	1956-60	1958	1959	1960
<b>Patent applications filed.</b>	<b>342,861</b>	<b>359,544</b>	<b>294,273</b>	<b>400,342</b>	<b>379,053</b>	<b>410,389</b>	<b>82,804</b>	<b>83,833</b>	<b>84,475</b>
Inventions.....	318,064	319,753	265,417	360,095	351,649	384,782	77,495	78,594	70,590
Designs.....	22,262	37,436	27,536	39,127	25,951	23,865	4,923	4,870	4,525
Botanical plants.....	210	326	262	398	467	584	134	114	131
Reissues.....	2,325	2,029	1,058	722	986	1,158	252	246	220
<b>Patents issued <sup>1</sup>.....</b>	<b>256,139</b>	<b>229,442</b>	<b>184,492</b>	<b>163,034</b>	<b>208,964</b>	<b>251,872</b>	<b>50,994</b>	<b>55,454</b>	<b>49,986</b>
Inventions <sup>2</sup> .....	239,026	200,837	164,360	144,076	192,651	237,469	48,330	52,408	47,170
Individuals.....	113,093	85,148	61,127	58,957	78,450	(3)	(3)	(3)	(3)
Corporations:									
United States.....	114,988	104,638	95,107	78,376	100,278	(3)	(3)	(3)	(3)
Foreign.....	10,778	10,836	5,147	4,669	10,537	(3)	(3)	(3)	(3)
U. S. Government <sup>4</sup> .....	167	215	346	1,761	3,359	(3)	(3)	(3)	(3)
Designs.....	15,071	26,455	18,880	18,016	15,084	13,024	2,374	2,708	2,543
Botanical plants.....	161	275	229	334	441	567	120	101	116
Reissues.....	1,881	1,875	1,023	608	788	812	170	177	157
<b>Certificates of trade-</b>									
<b>marks issued <sup>1</sup>.....</b>	<b>61,601</b>	<b>61,071</b>	<b>52,191</b>	<b>85,611</b>	<b>100,942</b>	<b>108,246</b>	<b>18,421</b>	<b>21,981</b>	<b>22,367</b>
Trademarks.....	52,381	52,663	34,435	61,339	83,311	90,727	15,351	18,709	18,434
Trademark renewals.....	9,220	8,408	17,756	24,272	17,631	17,519	3,070	3,272	3,933

<sup>1</sup> Excludes all registration numbers left blank due to withdrawal of patent or trademark before issue.

<sup>2</sup> Since 1942, includes patents issued to the Alien Property Custodian, not shown separately.

<sup>3</sup> Not available.

<sup>4</sup> Excludes patents issued to the Alien Property Custodian.

Source: Department of Commerce, Patent Office; records. Fiscal-year figures are published in the *Annual Report of the Commissioner of Patents*.

### No. 734. ATOMIC ENERGY PROGRAM—APPROPRIATIONS, INVESTMENTS, COSTS, AND EMPLOYMENT: 1950 TO 1960

[Money figures are in millions of dollars. For years ending June 30]

ITEM	1950	1955	1956	1957	1958	1959	1960
<b>Appropriations received.....</b>	<b>703</b>	<b>1,210</b>	<b>834</b>	<b>1,899</b>	<b>2,334</b>	<b>2,635</b>	<b>2,650</b>
Operations.....	1,099	1,146	1,741	2,225	2,385	2,387	2,387
Plant and equipment.....	111	111	111	158	109	250	263
<b>Plant investment, year end.....</b>	<b>2,104</b>	<b>6,487</b>	<b>6,713</b>	<b>6,908</b>	<b>7,111</b>	<b>7,293</b>	<b>7,345</b>
Completed plant.....	1,800	5,858	6,466	6,597	6,840	7,043	7,018
Production plants.....	1,251	4,646	5,213	5,393	5,495	5,553	5,458
Research facilities.....	184	707	753	793	938	1,124	1,271
Communities.....	262	299	299	267	229	179	86
Other.....	112	206	201	144	178	187	203
Construction in progress.....	295	629	247	311	271	250	327
<b>Cost of operations <sup>2</sup>.....</b>	<b>415</b>	<b>1,290</b>	<b>1,608</b>	<b>1,918</b>	<b>2,299</b>	<b>2,497</b>	<b>2,619</b>
Procurement of raw materials.....	39	194	279	398	596	700	717
Production of nuclear materials.....	130	588	731	763	750	713	731
Weapons development and fabrication.....	112	259	281	337	444	492	505
Development of nuclear reactors.....	31	115	160	255	306	356	399
Civilian.....	1	28	46	58	79	105	118
Military.....	9	53	101	168	185	203	213
Other.....	21	34	22	29	42	48	68
Physical research.....	29	48	57	70	88	112	133
Controlled thermonuclear.....		5	7	11	19	28	32
High energy physics.....	5	8	12	18	19	27	32
Other.....	24	35	38	41	50	57	69
Research in life sciences.....	18	29	30	33	36	43	49
Community operations (net).....	20	10	9	9	11	10	7
Administrative expenses.....	23	34	38	38	47	50	51
Other expenses and income (net).....	13	13	14	15	21	21	27
<b>Employment.....</b>	<b>63,739</b>	<b>112,555</b>	<b>110,143</b>	<b>119,368</b>	<b>120,973</b>	<b>121,858</b>	<b>122,646</b>
Federal Government.....	4,941	6,013	6,583	6,823	7,021	6,785	6,835
Contractor operating.....	30,095	82,936	90,238	98,176	103,290	105,195	104,612
Contractor construction and design.....	19,703	23,606	13,322	14,369	10,662	9,878	11,190

<sup>1</sup> Reflects transfer to operations of \$571 million appropriated in prior years for plant and equipment.

<sup>2</sup> Includes depreciation.

Source: Atomic Energy Commission; *Annual Financial Report, 1960*.



## No. 735. ATOMIC ENERGY PROGRAM—SUMMARY: 1950 to 1960

[For years ending December 31, except as noted]

ITEM	1950	1955	1956	1957	1958	1959	1960
Operating contractors <sup>1</sup> .....	34	64	68	72	84	94	91
Construction and design contractors <sup>1</sup> .....	28	18	25	20	38	34	39
Offsite research contracts with educational, medical, and other nonprofit institutions: <sup>2</sup>							
Number of institutions.....	100	187	192	203	225	216	229
Number of contracts.....	251	731	771	817	882	942	987
Nuclear reactors in U.S.:							
Civilian reactors:							
Electric power prototypes.....				1	1	2	3
Experimental electric power.....		2	4	8	7	7	7
Propulsion prototypes and experiments.....						1	4
General irradiation test.....		1	1	2	3	4	2
Research.....	9	11	15	18	26	31	35
Teaching.....			1	14	21	29	39
Military reactors:							
Electric power.....				1	2	3	5
Naval propulsion.....			2	3	6	11	15
Other propulsion prototypes and experiments.....		2	3	4	6	7	8
Test and research.....		4	5	5	6	6	7
Production reactors:							
Material production.....	5	13	13	13	13	13	13
Production process development and test.....	1	5	5	5	5	5	5
Licenses in effect:							
Power reactors:							
Construction permits.....			4	4	4	3	7
Licenses to operate.....				1	1	2	3
Research reactors:							
Construction permits.....		4	2	10	10	16	17
Licenses to operate.....		2	6	19	31	39	45
Test reactors:							
Construction permits.....				1	3	1	1
Licenses to operate.....						2	2
Critical experiment facilities:							
Construction permits.....		2	4	4	2	1	1
Licenses to operate.....				6	10	13	14
Operators' licenses.....		3	27	148	354	465	563
Licenses to possess special nuclear materials.....		7	51	134	236	294	362
Licenses to possess source materials.....	647	1,763	1,523	1,150	1,412	1,345	1,153
Licenses to export reactors issued.....			1	15	8	12	3
Source material export licenses issued.....	( <sup>3</sup> )	715	740	800	676	721	696
Organizations with byproduct (radioisotope) licenses <sup>4</sup> .....	614	3,016	3,663	3,392	4,357	5,505	5,940
Medical institutions and physicians.....	206	1,173	1,533	1,598	1,900	2,286	2,508
Industrial concerns.....	206	1,206	1,498	1,221	1,398	1,623	1,617
Colleges and universities.....	123	227	248	229	251	283	297
Federal and State laboratories.....	49	258	282	269	690	1,179	1,153
Foundations and institutions.....	29	57	62	41	49	52	55
Other.....	1	35	45	34	69	82	50
Radioisotopes: <sup>5</sup>							
Sales <sup>2</sup> .....\$1,000.....	222	1,295	2,198	2,660	2,426	2,498	2,426
Shipments by ORNL.....	7,995	12,749	13,585	14,126	14,131	12,950	12,724
Curies shipped by ORNL.....	1,111	55,772	109,500	166,630	228,714	299,365	205,674
Shipments to foreign countries.....	290	787	1,293	2,365	2,691	3,741	5,256
Exports to foreign countries.....\$1,000.....	( <sup>3</sup> )	1,288	906	1,367	1,534	1,283	1,084
Imports from foreign countries.....do.....	6	189	514	823	908	1,145	1,394
Access permits in effect.....		602	1,145	1,404	1,402	1,268	1,006
Agreements in effect for foreign cooperation.....		22	32	39	42	44	41
Power agreements.....		3	4	10	13	13	14
Research agreements.....		19	28	29	29	31	27
Sales of heavy water.....tons.....			90	78	95	59	86
Uranium statistics (U. S.):							
Concentrate receipts <sup>2</sup> .....tons of U <sub>3</sub> O <sub>8</sub> .....	3,060	5,940	10,435	16,159	26,376	33,326	34,582
From domestic sources <sup>2</sup> .....do.....	320	2,140	4,200	7,534	10,244	15,162	16,567
From foreign sources <sup>2</sup> .....do.....	2,740	3,800	6,235	8,625	16,132	18,164	18,015
Estimated uranium ore reserves.....1,000 tons.....	2,000	27,000	60,000	78,000	82,500	86,000	82,000
Uranium ore milling capacity.....tons per day.....	800	5,500	8,960	11,000	21,000	21,410	22,100

<sup>1</sup> Represents those whose employment plus first-tier subcontractor employment totals 50 or more; operating contractors comprise those engaged in production, research and development, maintenance, and service; excludes supply contractors.

<sup>2</sup> As of June 30.

<sup>3</sup> Not available.

<sup>4</sup> Beginning 1957, data include only parent organizations, which are issued single basic licenses. Subordinate organizations at various locations included for prior years.

<sup>5</sup> The Oak Ridge National Laboratory is the AEC's principal distributor of radioisotopes. Sales are made also by other AEC laboratories and by commercial suppliers. Sales figures include AEC sales made to commercial suppliers but not by them. Shipments to foreign countries are comprised of shipments made by AEC laboratories and by commercial suppliers.

Source: Atomic Energy Commission; *Semiannual Report*, *Annual Report*, and records. Department of Commerce, Bureau of the Census, foreign trade releases.

## No. 736. SHIPMENTS OF ATOMIC ENERGY EQUIPMENT AND PRODUCTS: 1958 AND 1959

[In thousands of dollars. Excludes Alaska and Hawaii. Excludes construction expenditures, engineering and design costs, research and development expenditures, and products used in atomic energy work which are not uniquely designed for nuclear applications]

ITEM	1958			1959		
	Total	U.S. Government agencies	Other, including export	Total	U.S. Government agencies	Other, including export
<b>Total</b> .....	<b>161,762</b>			<b>244,858</b>		
Nuclear reactors.....	1,156		1,156	7,497	(1)	(1)
Reactor components and equipment:						
Primary vessels and tanks.....	17,099	13,325	3,774	19,989	(1)	(1)
Control rod drive mechanisms and components.....	7,481	6,969	512	5,404	4,766	638
Accessory instrumentation for reactor control.....	15,284	12,326	2,958	15,933	11,311	4,622
Heat exchangers and condensers.....	13,799	7,358	6,441	27,233	22,903	4,330
Pressurizers, components, and auxiliary equipment.....	1,758	(1)	(1)	3,620	(1)	(1)
Pumps.....	9,516	7,861	1,655	19,455	(1)	(1)
Valves.....	11,401	7,695	3,706	13,984	12,207	1,777
Fuel handling equipment.....	(2)	(2)	(2)	1,747	(1)	(1)
Complete reactor fuel elements and control rods shipped directly for installation or use in a reactor.....	23,873	21,218	2,655	54,845	(1)	(1)
Partially fabricated reactor fuel element materials and control rods not shipped directly for installation or use in a reactor.....	5,742	3,358	2,384	11,773	(1)	(1)
Core structurals (barrels, cans, boxes, plates, etc., not included above).....	3,908	1,545	2,363	5,255	3,528	1,727
Other specialized reactor components and equipment.....	12,935	8,470	4,465	4,684	2,068	2,616
Hot laboratory equipment.....	3,886	2,900	986	3,700	2,794	906
Shielding.....	(2)	(2)	(2)	1,786	1,302	484
Radiation detection and monitoring devices:						
Radiation survey monitoring and control devices.....	14,799	8,930	5,869	12,547	5,863	6,684
Radiation counting equipment.....	10,387	2,661	7,726	16,381	2,940	13,441
Radioactive isotopes shipped from plants producing isotopes.....	171	(1)	(1)	394	55	339
Radiation sources and other radioactive materials produced from purchased isotopes.....	3,071	403	2,668	3,748	633	3,115
Control and measuring devices containing radioactive isotopes.....	3,896	136	3,760	8,897	193	8,704
Commercial irradiation service.....	97	(1)	(1)			
Conversion of enriched uranium metal and compounds (excluding production or conversion of normal and depleted uranium).....	1,503	199	1,304	5,986	2,638	3,348

<sup>1</sup> Withheld to avoid disclosing figures for individual companies.

<sup>2</sup> Included with "Other specialized reactor components and equipment."

Source: Department of Commerce, Bureau of the Census; *Current Industrial Reports*, Series M38Q-09.

## No. 737. RADIATION DETECTION AND MEASURING INSTRUMENTS PRODUCED, AND NUMBER OF ESTABLISHMENTS, BY STATES: 1957

REGION AND STATE	Self-reading dosimeters with chargers	Low-range survey meters	High-range survey meters	Dose rate and total dose calculators	High-sensitivity laboratory type equipment for counting Alpha, Beta, Gamma
<b>Production (units), total</b> .....	<b>160,132</b>	<b>39,865</b>	<b>24,124</b>	<b>750</b>	<b>50,100</b>
<b>Establishments, total</b> .....	<b>9</b>	<b>19</b>	<b>15</b>	<b>10</b>	<b>26</b>
<b>New England and Middle Atlantic</b> .....	<b>4</b>	<b>8</b>	<b>7</b>	<b>3</b>	<b>8</b>
Massachusetts.....	1	2	1	2	2
Connecticut.....					1
New York.....	3	3	3	1	3
New Jersey.....		3	3		2
<b>North Central</b> .....	<b>2</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>10</b>
Ohio.....	2	2	2	2	2
Indiana.....		1		2	5
Illinois.....			2		5
Missouri.....		1	1	1	1
<b>Pacific</b> .....	<b>3</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>8</b>
Oregon.....		1	1		1
California.....	3	6	2	2	7

Source: Department of Commerce, Bureau of the Census; *Facts for Industry*, Series BDSAF-SI-3-07.

No. 738. ARTIFICIAL SATELLITES AND SPACE PROBES IN ORBIT: 1961  
[In orbit as of March 10. Excludes projects which are primarily military in nature]

NAME	Description	Type	Launching date	Dimensions (inches)	WEIGHT (pounds)		Inclination to Equator	Perigee (miles)	Apogee (miles)	Transmitting
					Total payload <sup>2</sup>	Scientific instrumentation				
U.S. LAUNCHINGS										
Explorer I	Satellite	Cylinder	Jan. 31, 1958	80L-6D	30.8	18.13	32.3°	217	1,155	No
Vanguard I	do	Sphere	Mar. 17, 1958	6D	3.25	( <sup>3</sup> )	34.25°	406	2,444	Yes
Vanguard II	do	do	Feb. 17, 1959	20D	21.5	( <sup>3</sup> )	32.86°	347	7,046	No
Pioneer IV	Planetoid	Cone	Mar. 3, 1959	20L-9D	13.40	( <sup>3</sup> )		491.7	4,107.9	No
Explorer VI	Satellite	Spheroid with vanes	Aug. 17, 1959	29L-26D	142		46.9°	186	26,357	No
Vanguard III	do	Sphere and cylinder	Sept. 18, 1959	( <sup>3</sup> )	30			319	2,329	No
Explorer VII	do	Cone	Oct. 13, 1959	30L-30D	91.5	( <sup>3</sup> )	50.3°	344	673	Yes
Pioneer V	Planetoid	Sphere plus vanes	Mar. 11, 1960	30L-30D	270	94.8		474.9	4,923.8	No
Explorer VIII	Satellite	Cylinder	Apr. 13, 1960	19L-42D	265		48.3°	333	479	Yes
Transit I-B	do	Sphere	May 25, 1960	7 22L-31D	5,000	( <sup>3</sup> )	33°	322.1	322	Yes
Midast II-A <sup>3</sup>	do	Cylinder	June 22, 1960	30D	223	( <sup>3</sup> )	66.7°	389	665	Yes
Transit II-A <sup>3</sup>	do	Sphere	do	20D	242	( <sup>3</sup> )	69.5°	382	657	Yes
NRL Satellite <sup>3</sup>	do	do	Aug. 12, 1960	( <sup>3</sup> ) 20D	500		28.5°	501	1,649	Yes
Echo I	Inflatable sphere	Mylar polyester sphere	Oct. 4, 1960	51D	500		28.3°	258	1,638	Yes
Courier I-B	Satellite	Sphere	Nov. 3, 1960	30L-30D	90.14		40.9°	255	1,423	Yes
Explorer VIII	do	Cone	Nov. 23, 1960	19L-42D	280		48.5°	385	1,433	Yes
Tiros II	do	Cylinder	Jan. 31, 1961	7 22L-31D	4,100	( <sup>3</sup> )	( <sup>3</sup> )	307	350	Yes
Samos II	do	Cylinder	Feb. 16, 1961	7 12D	80		35.63°	305	305	No
Explorer IX	do	Sphere	Feb. 17, 1961	7 12D	80		35.63°	305	305	No
Discoverer XXI	do	Cylinder	Feb. 18, 1961	7 26L-6D	2,450		80.43°	177	1,486	No
Discoverer XXII	do	( <sup>3</sup> )	Feb. 18, 1961				80.74°	149	659	No
Transit III-B and LOFTI	do	Sphere	Feb. 21, 1961	36D	250		28.36°	117	311	Yes
U.S.S.R. LAUNCHINGS <sup>10</sup>										
Lunik or Mecha I	Space probe	Sphere	Jan. 2, 1959	( <sup>11</sup> )	3,245	( <sup>3</sup> )	-----	491	4,120	No
Spacecraft I	Satellite	( <sup>11</sup> )	May 14, 1960	( <sup>11</sup> )	10,008		64.9°	12,188.5	12,228.7	No
Venus probe	do	Cylinder	Feb. 12, 1961	80L-41D	1,419			466.7	4,044.6	No

<sup>1</sup> D=diameter, L=length.

<sup>2</sup> Total weight of instrument without rockets.

<sup>3</sup> Not available.

<sup>4</sup> Not altitudinal, perihelion and apohelion, respectively.

<sup>5</sup> With a tapered 26-inch tapered tube.

<sup>6</sup> Slightly over 40.

<sup>7</sup> Dimensions in feet. Samos II, second stage.

<sup>8</sup> Two satellites launched at once.

<sup>9</sup> Satellite packaged in 26½ inch magnesium sphere.

<sup>10</sup> Unofficial information. Sputnik I launched Oct. 4, 1957. Sputnik II launched Nov. 3, 1957, and Sputnik III launched May 15, 1958 are no longer in orbit. Lunik II, launched Sept. 12, 1959, hit moon's surface Sept. 13, 1959. Lunik III, launched Oct. 4, 1959, photographed hidden side of moon Oct. 7, 1959.

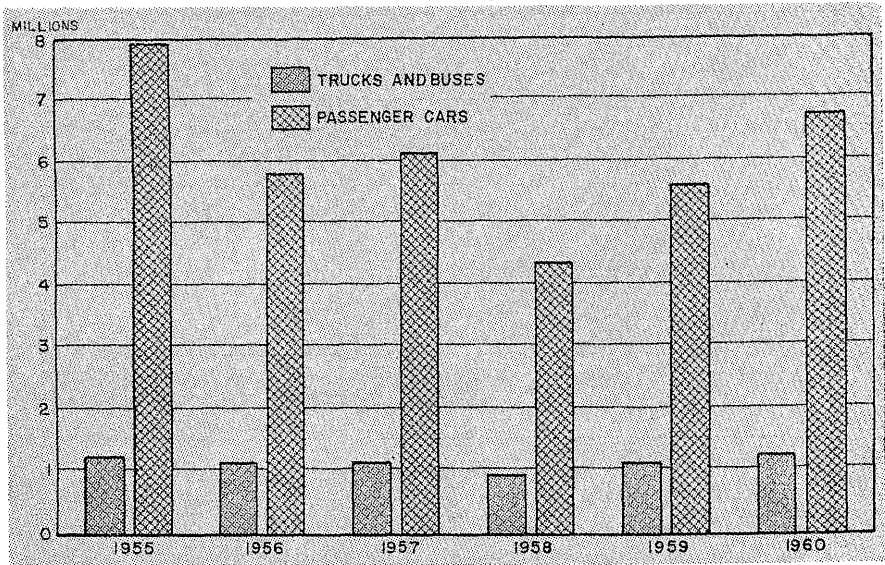
<sup>11</sup> Not disclosed.

<sup>12</sup> Perigee 191 miles and apogee 429 miles after firing of retro-rockets May 19, 1960.

Source: National Aeronautics and Space Administration, records.

FIG. XXXI. MOTOR-VEHICLE FACTORY SALES: 1955 TO 1960

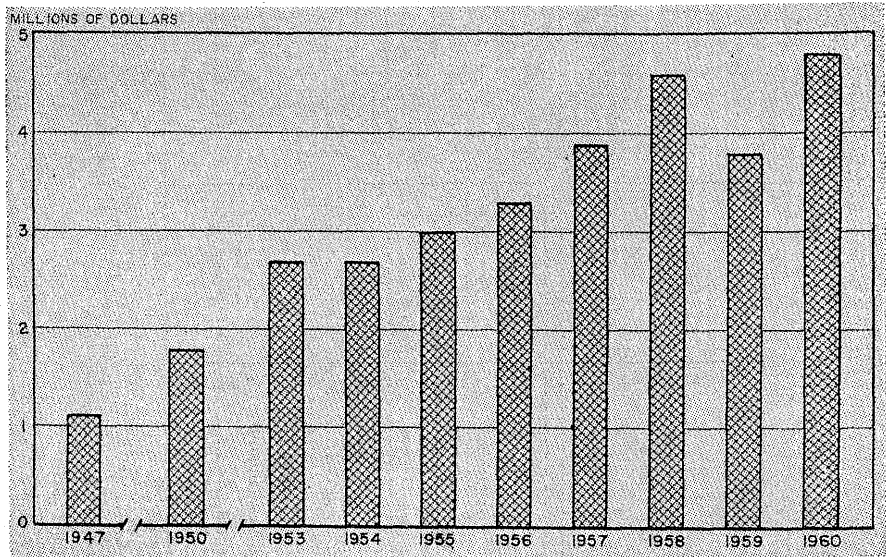
[See table 756]



Source: Chart prepared by Department of Commerce, Bureau of the Census. Data are from Automobile Manufacturers Association.

FIG. XXXII. HIGHWAY CONSTRUCTION CONTRACTS AWARDED: 1947 TO 1960

[See table 741]



Source: Department of Commerce, Bureau of the Census.

## Section 20

### Roads and Motor Vehicles

This section presents statistics relating to the mileage, control, and financing of public roads and to motor-vehicle travel and usage. The Bureau of Public Roads of the Department of Commerce is the principal compiler of data concerning public roads and motor-vehicle registrations. Since 1945, it has published such data in its annual *Highway Statistics*. The same Bureau's *Highway Statistics, Summary to 1955*, presents public roads data carried back over periods ranging from 20 to 50 years. The motor-vehicle registration figures which appear in *Highway Statistics* are compiled from reports and records of State highway departments.

The first road mileage survey was made in 1904. Data for 1904 and other road mileage surveys made in 1909, 1914, and 1921 appear in Department of Agriculture Bulletin 1279, *Rural Highway Mileage, Income, and Expenditures, 1921-22*.

Useful annual handbooks in this field are *Automobile Facts and Figures* and *Motor Truck Facts*, both issued by the Automobile Manufacturers Association of Detroit, Mich.; and *Accident Facts*, issued by the National Safety Council of Chicago, Ill. In addition, the Bureau of the Census compiles and publishes statistics on the motor vehicles and equipment industry which appear in the *Census of Manufactures* reports and in its *Annual Survey of Manufactures*. Data from these reports are also included in section 30, Manufactures, in this volume.

**Rural and urban roads.**—The terms rural, urban, and municipal are used in different ways in different tables in this section; because of special problems and purposes, it is not possible to apply identical definitions and segregations to all types of data. Definitions are given in table headnotes where pertinent.

**Highway systems.**—The Federal-Aid Highway Act of 1916 provides for the sharing of highway construction costs between the States and the Federal Government with the initiative retained by each State for choosing projects and carrying them out. The planning and development of Federal-aid systems began in 1921. Federal funds share with State funds in costs of engineering, construction, and right-of-way acquisition on the designated systems while other charges, such as maintenance and policing, are borne entirely by the States and local agencies.

The Federal-aid primary system connects all of the principal cities, county seats, ports, manufacturing areas, and other traffic generating areas. In general, these are at the same time the main State trunkline roads. Certain sections of the primary system are more important than others from the viewpoint of national interest. Consequently, in 1944, the Congress authorized the creation of the National System of Interstate and Defense Highways, not to exceed 40,000 miles in length. In 1956 Congress extended the system to 41,000 miles and authorized for the first time a long-range program to complete the system. Federal funds of \$25 billion, providing 90 percent of the total estimated cost, are authorized for the fiscal years 1957 to 1969.

The Federal-Aid Highway Act of 1944 authorized the first specific funds for Federal-aid highways in urban areas, and established the Federal-aid secondary system, consisting of important feeder roads linking the farms, factories, distribution outlets, and smaller communities with the primary system.

**Alaska and Hawaii.**—For a general statement concerning the treatment of data for Alaska and Hawaii, see preface.

**Historical statistics.**—Tabular headnotes (as "See also *Historical Statistics, Colonial Times to 1957*, series Q 247-250") provide cross-references, where applicable, to *Historical Statistics of the United States, Colonial Times to 1957*. See preface.

### No. 739. EXISTING RURAL AND MUNICIPAL MILEAGE, BY GOVERNMENTAL CONTROL: 1930 TO 1959

[In thousands. As of December 31. Beginning 1959, includes Alaska and Hawaii. Municipal roads are those within incorporated places, New England communities of 2,500 inhabitants or more, and certain of the more populous unincorporated areas. All other roads are classed as rural. See also *Historical Statistics, Colonial Times to 1957*, series Q 246 and, for similar but not exactly comparable data, series Q 247 and Q 251]

GOVERNMENTAL CONTROL	1930	1940	1945	1950	1955	1956	1957	1958	1959
<b>Total mileage</b> .....			3,319	3,313	3,418	3,430	3,453	3,479	3,510
Rural mileage.....	3,009	2,990	3,012	2,990	3,045	3,051	3,064	3,074	3,094
Under State control.....	324	524	544	581	619	628	636	643	654
Under local control.....	2,685	2,466	2,398	2,336	2,333	2,330	2,329	2,330	2,333
Under Federal control.....			70	73	93	94	99	101	107
Municipal mileage.....	(1)		307	323	373	378	389	405	416
Under State control.....	(1)	27	33	36	42	43	45	47	48
Under local control.....	(1)	(1)	274	287	331	335	344	358	368

<sup>1</sup> Not available.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

### No. 740. EXISTING MILEAGE OF RURAL ROADS: 1921 TO 1959

[In thousands of miles. As of December 31. Beginning 1959, includes Alaska and Hawaii. For definition of rural roads, see headnote, table 739. See also *Historical Statistics, Colonial Times to 1957*, series Q 247-250, for similar but not exactly comparable data]

TYPE AND CONTROL	1921	1930	1940	1945	1950	1955	1957	1958	1959
<b>All rural roads</b> .....	2,925	3,009	2,990	3,012	2,990	3,045	3,064	3,074	3,094
Primary State highways.....	203	324	329	339	363	387	391	395	403
Secondary State highways.....			81	84	88	91	97	98	101
County roads under State control.....	2,722	2,685	114	118	122	131	135	136	136
County and local roads <sup>1</sup> .....			2,466	2,471	2,417	2,436	2,441	2,445	2,454
<b>Surfaced rural roads</b> .....	387	694	1,340	1,495	1,679	1,942	2,021	2,083	2,125
Primary State highways.....	84	227	302	316	351	381	386	391	398
Secondary State highways.....			65	71	73	84	90	92	96
County roads under State control.....	303	467	55	63	83	103	107	109	110
County and local roads <sup>1</sup> .....			918	1,045	1,172	1,374	1,438	1,491	1,621
<b>Nonsurfaced rural roads <sup>2</sup></b> .....	2,538	2,315	1,650	1,517	1,311	1,103	1,043	991	969
Primary State highways.....	119	97	27	23	12	6	5	4	4
Secondary State highways.....			16	13	15	7	7	6	5
County roads under State control.....	2,419	2,218	59	55	39	28	28	27	26
County and local roads <sup>1 2</sup> .....			1,548	1,426	1,245	1,062	1,003	954	934

<sup>1</sup> Includes mileage in national and State parks, forests, reservations, etc., not included as part of State or local systems.

<sup>2</sup> Includes mileage not classified by type of surface.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

### No. 741. HIGHWAY CONSTRUCTION—CONTRACTS AWARDED, BY OWNERSHIP, SOURCE OF FUNDS, AND TYPE OF FACILITY: 1947 TO 1960

[In millions of dollars. Beginning 1959, includes Alaska and Hawaii. Includes force-account work started on Federal and State projects]

OWNERSHIP, SOURCE OF FUNDS, AND TYPE OF FACILITY	1947	1950	1954	1955	1956	1957	1958	1959	1960
<b>All construction</b> .....	1,108	1,816	2,746	2,992	3,303	3,917	4,585	3,805	4,816
Federally owned.....	25	36	62	59	92	92	96	86	129
State owned.....	892	1,492	2,300	2,560	2,718	3,311	3,096	3,213	3,962
Federally aided projects:									
Total value.....	635	798	1,218	1,256	1,737	2,390	3,489	2,638	3,097
Federal funds.....	329	415	630	667	963	1,614	2,604	1,877	2,218
Independent State projects:									
Total value.....	257	694	1,082	1,304	981	921	507	575	865
Toll facilities.....	(1)	228	459	695	337	343	44	59	225
Locally owned <sup>2</sup> .....	191	289	384	374	493	514	494	506	725

<sup>1</sup> Not available.

<sup>2</sup> By municipalities, counties, and local level special districts.

Source: Department of Commerce, Bureau of the Census. Published in Department of Commerce, Business and Defense Services Administration, *Construction Review*.

**No. 742. EXISTING ROAD MILEAGE—MUNICIPAL MILEAGE, AND RURAL MILEAGE, BY TYPE AND GOVERNMENTAL CONTROL, BY STATES: 1959**

[As of December 31. For definition of municipal and rural roads, see headnote, table 739. Compiled for latest available year from reports of State authorities and planning survey data]

STATE	Total rural and municipal	Municipal	RURAL					
			Total	Type		Governmental control		
				Surfaced	Non-surfaced	State <sup>1</sup>	Local	Federal <sup>2</sup>
<b>United States.....</b>	<b>3,510,660</b>	<b>416,198</b>	<b>3,094,462</b>	<b>2,125,253</b>	<b>969,209</b>	<b>653,808</b>	<b>2,333,280</b>	<b>107,374</b>
Alabama.....	72,665	8,967	63,698	49,905	13,793	<sup>3</sup> 16,512	47,186	-----
Alaska.....	4,240	21	4,219	3,898	321	4,219	-----	-----
Arizona.....	35,729	3,718	32,011	12,040	19,971	4,251	16,375	11,385
Arkansas.....	78,399	5,981	72,418	41,460	30,958	10,256	60,266	1,896
California.....	143,558	30,224	113,334	70,964	42,370	13,538	77,251	22,545
Colorado.....	77,248	5,151	72,097	35,044	37,053	7,839	63,080	1,178
Connecticut.....	16,700	5,511	11,189	10,966	223	2,877	8,312	-----
Delaware.....	4,650	668	3,982	3,673	309	<sup>3</sup> 3,982	-----	-----
Dist. of Columbia.....	1,250	-----	-----	-----	-----	-----	-----	-----
Florida.....	66,512	10,084	50,428	28,959	21,469	13,110	37,318	-----
Georgia.....	97,335	13,482	83,853	43,281	40,572	14,042	69,783	28
Hawaii.....	3,066	644	2,422	2,228	194	1,053	1,302	67
Idaho.....	42,558	2,382	40,176	23,770	16,406	4,519	27,669	7,988
Illinois.....	123,214	20,886	102,328	93,188	9,140	10,849	<sup>4</sup> 91,479	-----
Indiana.....	101,424	15,139	86,285	77,796	8,489	9,973	76,312	-----
Iowa.....	111,514	11,848	99,666	88,890	10,776	8,980	90,686	-----
Kansas.....	133,306	8,660	124,646	71,007	53,639	9,895	114,741	10
Kentucky.....	68,203	3,994	64,209	48,472	15,827	19,179	44,856	264
Louisiana.....	47,870	8,255	39,615	30,336	9,279	<sup>3</sup> 14,035	25,580	-----
Maine.....	20,774	1,829	18,945	16,187	2,758	<sup>3</sup> 10,857	7,977	111
Maryland.....	22,052	3,772	18,280	18,040	240	4,486	13,775	19
Massachusetts.....	26,470	10,110	16,351	14,841	1,510	2,035	14,316	-----
Michigan.....	110,089	16,742	93,347	73,484	19,863	8,228	85,119	-----
Minnesota.....	123,785	14,081	109,704	90,104	19,600	11,262	<sup>4</sup> 97,063	1,379
Mississippi.....	63,482	4,951	58,531	50,612	7,919	9,853	48,558	120
Missouri.....	110,983	12,421	98,562	87,282	11,280	27,442	70,573	547
Montana.....	74,829	1,698	73,131	27,553	45,578	10,858	54,792	7,481
Nebraska.....	102,586	5,804	96,782	53,634	43,148	8,892	87,628	262
Nevada.....	44,431	991	43,440	12,941	30,499	<sup>3</sup> 6,094	37,346	-----
New Hampshire.....	13,966	1,379	12,587	9,694	2,893	3,779	8,702	100
New Jersey.....	31,000	12,102	18,898	15,124	3,774	2,082	16,816	-----
New Mexico.....	62,437	2,841	59,596	13,299	46,297	11,252	43,624	4,720
New York.....	105,949	17,314	88,635	75,647	12,988	13,363	75,262	10
North Carolina.....	80,824	10,820	70,004	58,910	11,094	<sup>3</sup> 68,675	-----	1,329
North Dakota.....	97,423	2,627	94,796	50,255	44,541	6,044	88,214	538
Ohio.....	101,992	18,115	83,877	81,896	1,981	16,068	67,809	-----
Oklahoma.....	102,649	8,555	94,094	56,566	37,528	11,204	82,408	482
Oregon.....	69,627	5,362	64,265	38,702	25,563	8,113	33,320	22,882
Pennsylvania.....	108,716	16,124	92,592	60,418	23,174	43,132	49,152	308
Rhode Island.....	4,187	2,283	1,904	1,764	140	711	1,193	-----
South Carolina.....	56,196	5,018	51,178	26,806	24,372	24,647	26,531	-----
South Dakota.....	92,097	2,685	89,412	45,612	43,800	7,092	81,146	1,174
Tennessee.....	74,511	7,875	66,636	62,786	3,850	7,989	57,890	787
Texas.....	229,423	35,173	194,250	115,120	79,130	52,409	141,841	-----
Utah.....	33,671	3,876	29,795	14,741	15,054	4,988	17,193	7,614
Vermont.....	13,748	861	12,887	10,535	2,352	2,010	<sup>4</sup> 10,854	23
Virginia.....	56,208	5,647	50,561	48,476	2,085	<sup>3</sup> 48,833	647	1,081
Washington.....	59,339	6,751	52,588	39,966	12,622	6,233	38,562	7,853
West Virginia.....	36,092	3,002	33,090	20,556	12,534	<sup>3</sup> 30,912	1,685	493
Wisconsin.....	97,296	11,579	85,717	77,506	8,211	10,124	75,566	237
Wyoming.....	54,297	936	53,361	11,319	42,042	5,032	45,792	2,537

<sup>1</sup> Includes 14,150 miles of State park, forest, institutional, and other roads, rural and municipal, that are not part of State or local highway systems. Also includes 4,077 miles of toll roads, bridges, tunnels, etc.

<sup>2</sup> Comprises mileage of roads not forming a part of State or local highway systems.

<sup>3</sup> Includes mileage of county roads under State control in Alabama (8 counties), Delaware, Nevada, North Carolina, Virginia (all but 2 counties), and West Virginia; farm-to-market system in Louisiana; and the State-aid system in Maine.

<sup>4</sup> Includes mileage of local roads designated as State aid in Illinois, 18,231 miles; Minnesota, 27,027 miles; and Vermont, 2,499 miles.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics, 1959*, and records.

### NO. 743. MILEAGE AND COST OF DESIGNATED FEDERAL-AID HIGHWAY SYSTEMS: 1917 to 1959

[Includes Hawaii and Puerto Rico and, beginning 1957, Alaska. See also *Historical Statistics, Colonial Times to 1957*, series Q 261-264]

YEAR	MILES OF HIGHWAY		COST (\$1,000) <sup>3</sup>		
	Total existent <sup>1</sup>	Completed during year <sup>2</sup>	Total	Federal funds	State funds
1917-1921.....		12, 919	221, 740	95, 054	126, 686
1925.....	178, 797	11, 001	220, 921	100, 030	120, 891
1930.....	193, 049	10, 339	236, 520	99, 839	136, 681
1935.....	214, 000	12, 811	242, 420	218, 112	24, 307
1940.....	234, 112	11, 549	269, 216	149, 724	119, 492
1945.....	232, 772	8, 035	101, 037	76, 485	24, 552
1950.....	640, 753	19, 876	753, 199	389, 578	363, 621
1951.....	651, 826	17, 060	771, 708	389, 564	382, 144
1952.....	673, 137	22, 147	977, 548	505, 444	472, 104
1953.....	694, 677	21, 136	1, 077, 733	558, 913	518, 820
1954.....	717, 379	20, 548	1, 146, 419	591, 202	555, 217
1955.....	741, 824	22, 571	1, 287, 364	665, 913	621, 451
1956.....	777, 514	23, 609	1, 444, 059	756, 926	687, 133
1957.....	809, 672	22, 424	1, 714, 240	968, 504	745, 676
1958.....	830, 569	28, 137	2, 744, 486	1, 669, 015	1, 075, 471
1959.....	854, 294	32, 633	3, 708, 857	2, 517, 502	1, 191, 355

<sup>1</sup> Total existing mileage of Federal-aid primary system through 1945; beginning 1950 includes secondary system. Data as of June 30 through 1955, as of December 31 beginning 1956.

<sup>2</sup> Comprises construction and reconstruction mileage.

<sup>3</sup> Represents actual expenditures of funds on calendar-year basis. Beginning 1935, includes money spent on public works and defense highways. Beginning 1940, includes secondary highways.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*, and *Annual Report*, 1960.

### NO. 744. MILEAGE OF DESIGNATED FEDERAL-AID HIGHWAY SYSTEMS, BY STATES AND FOR PUERTO RICO: 1959

[In miles. As of December 31. See text, p. 545]

STATE OR OTHER AREA	PRIMARY HIGHWAY SYSTEM		Secondary highway system	STATE OR OTHER AREA	PRIMARY HIGHWAY SYSTEM		Secondary highway system
	Total miles	National system of interstate highways			Total miles	National system of interstate highways	
Total.....	264, 608	40, 614	589, 686	Missouri.....	9, 294	1, 100	23, 219
Alabama.....	6, 804	873	20, 722	Montana.....	6, 233	1, 180	5, 153
Alaska.....	2, 200		3, 225	Nebraska.....	5, 793	489	17, 539
Arizona.....	2, 771	1, 162	3, 943	Nevada.....	2, 200	534	2, 078
Arkansas.....	3, 920	523	14, 334	New Hampshire.....	1, 208	213	1, 611
California.....	9, 394	2, 182	11, 219	New Jersey.....	2, 093	372	2, 095
Colorado.....	4, 263	963	4, 097	New Mexico.....	4, 029	1, 003	5, 473
Connecticut.....	1, 281	297	1, 144	New York.....	10, 555	1, 227	19, 285
Delaware.....	585	40	1, 416	North Carolina.....	7, 035	773	25, 712
District of Columbia.....	142	33	92	North Dakota.....	4, 100	570	13, 887
Florida.....	5, 385	1, 142	13, 097	Ohio.....	9, 506	1, 480	17, 827
Georgia.....	8, 775	1, 110	14, 062	Oklahoma.....	8, 258	796	12, 605
Hawaii.....	533		649	Oregon.....	4, 028	731	7, 599
Idaho.....	3, 219	611	5, 285	Pennsylvania.....	8, 447	1, 528	13, 413
Illinois.....	10, 736	1, 608	13, 730	Rhode Island.....	524	71	450
Indiana.....	6, 008	1, 105	16, 253	South Carolina.....	5, 386	679	16, 279
Iowa.....	10, 280	711	33, 065	South Dakota.....	6, 075	679	12, 352
Kansas.....	7, 803	803	23, 491	Tennessee.....	5, 582	1, 047	10, 446
Kentucky.....	4, 548	696	15, 239	Texas.....	17, 310	3, 029	31, 757
Louisiana.....	3, 321	680	7, 742	Utah.....	2, 277	922	3, 696
Maine.....	1, 930	311	2, 297	Vermont.....	1, 574	321	1, 423
Maryland.....	2, 300	354	6, 759	Virginia.....	5, 573	1, 067	18, 423
Massachusetts.....	2, 340	482	2, 175	Washington.....	4, 002	727	10, 749
Michigan.....	7, 578	1, 074	24, 937	West Virginia.....	2, 771	395	10, 726
Minnesota.....	8, 811	893	30, 417	Wisconsin.....	6, 367	452	18, 880
Mississippi.....	5, 789	672	13, 720	Wyoming.....	3, 621	915	2, 314
				Puerto Rico.....	551		1, 090

Source: Department of Commerce, Bureau of Public Roads; *Annual Report*, 1960.



## Federal-Aid Highway Projects

549

## No. 745. FEDERAL-AID HIGHWAY PROJECTS, BY STATES AND FOR PUERTO RICO: 1960

[Money figures in millions of dollars. As of June 30. Comprises projects financed from Federal-aid primary, secondary, urban, and interstate funds]

STATE OR OTHER AREA	COMPLETED DURING FISCAL YEAR			UNDER CONSTRUCTION			PLANS APPROVED—NOT UNDER CONSTRUCTION			FEDERAL-AID FUNDS	
	Total cost	Federal funds	Miles	Total cost	Federal funds	Miles	Total cost	Federal funds	Miles	Available for pro- graming to additional projects	Pro- gramed only
<b>Total.....</b>	<b>3,651.5</b>	<b>2,504.5</b>	<b>28,830</b>	<b>7,080.4</b>	<b>5,180.1</b>	<b>25,538</b>	<b>1,109.6</b>	<b>803.2</b>	<b>5,821</b>	<b>1,911.1</b>	<b>926.7</b>
<b>U.S.....</b>	<b>3,638.7</b>	<b>2,498.1</b>	<b>28,798</b>	<b>7,050.3</b>	<b>5,165.6</b>	<b>25,465</b>	<b>1,109.6</b>	<b>803.2</b>	<b>5,824</b>	<b>1,906.5</b>	<b>913.3</b>
Ala.....	54.8	34.9	988	153.1	113.0	856	25.4	17.0	199	36.7	35.4
Alaska.....	12.3	9.8	152	37.4	32.5	181	2.1	1.8	17	22.2	9.8
Ariz.....	29.3	25.5	261	53.6	47.8	191	15.1	13.2	85	18.9	21.2
Ark.....	32.6	20.4	537	105.3	81.1	527	12.3	9.1	124	20.9	33.6
Calif.....	288.8	167.3	437	538.9	316.8	326	88.1	68.0	139	95.9	20.6
Colo.....	42.3	30.2	411	46.3	32.4	334	7.9	5.5	55	31.0	7.3
Conn.....	35.8	23.0	49	128.4	92.5	86	8.7	4.6	8	16.4	-----
Del.....	9.9	6.1	63	30.1	22.7	70	4.1	3.3	8	21.7	7.1
Dist. of Col.....	87.1	69.3	378	145.5	112.7	336	7.7	5.0	25	25.5	4.9
Fla.....	78.7	46.6	958	198.5	137.7	891	18.0	11.8	94	46.3	70.1
Ga.....	5.8	3.1	13	10.3	4.9	14	(1)	(1)	-----	7.2	1.2
Hawaii.....	28.9	21.7	424	41.3	33.7	253	7.7	5.9	63	33.8	14.5
Idaho.....	178.8	121.6	1,089	396.4	306.1	981	71.4	50.6	141	51.9	39.5
Ill.....	74.0	46.1	478	197.3	143.5	488	38.6	29.1	215	87.5	32.6
Ind.....	77.4	56.9	1,015	77.9	59.2	703	21.5	14.7	213	10.3	8.6
Iowa.....	65.0	42.4	1,464	64.8	42.3	1,201	11.7	8.0	199	39.4	5.6
Kans.....	72.3	51.5	330	140.1	104.5	349	21.2	17.8	42	30.7	21.4
Ky.....	83.9	58.0	654	182.2	131.6	515	41.0	29.5	83	23.0	10.6
La.....	30.0	20.1	134	38.8	31.2	113	3.9	2.8	15	21.9	4.5
Maine.....	47.3	31.6	230	65.2	49.0	164	30.5	22.6	74	57.6	18.8
Md.....	60.4	48.9	60	206.1	149.8	117	74.6	54.5	48	28.5	10.8
Mass.....	114.3	76.2	912	279.1	220.1	822	36.2	24.3	291	58.0	12.4
Mich.....	48.7	30.1	1,312	256.3	160.5	1,632	15.7	10.4	199	38.6	15.1
Minn.....	54.4	34.8	1,009	113.6	84.0	927	12.2	8.7	143	14.5	33.7
Miss.....	102.1	73.9	1,152	160.6	113.8	1,020	21.3	15.7	180	51.0	12.8
Mo.....	32.2	22.9	600	81.1	64.5	565	14.9	11.1	161	61.0	10.5
Mont.....	40.6	24.4	805	78.9	58.1	828	10.4	11.4	123	48.0	3.8
Nebr.....	14.3	12.6	169	43.9	40.7	123	1.8	1.5	39	30.7	8.0
Nev.....	22.4	16.0	57	39.9	31.6	66	6.0	4.0	16	6.6	4.0
N.H.....	45.7	30.5	103	190.7	143.9	86	16.9	13.0	23	91.6	35.9
N.J.....	41.6	33.0	345	41.8	34.6	208	3.6	2.5	33	18.1	8.5
N. Mex.....	322.8	207.7	513	652.8	452.6	664	71.6	51.8	107	67.1	28.6
N.Y.....	65.2	43.1	719	79.8	68.0	583	16.6	11.0	129	52.8	10.8
N.C.....	37.1	26.1	1,369	40.1	27.3	1,115	12.0	8.2	177	15.2	5.2
N. Dak.....	305.3	242.2	586	276.7	200.8	347	53.0	37.4	84	13.0	17.8
Ohio.....	60.0	43.9	547	71.3	51.0	679	19.0	11.6	203	25.6	17.7
Okla.....	45.7	34.5	431	105.6	87.5	377	10.5	13.6	86	12.2	13.1
Oreg.....	225.2	169.6	440	248.8	182.2	324	66.8	44.8	87	136.3	42.1
Pa.....	12.5	8.5	40	42.3	30.6	25	.5	.4	2	16.3	1.6
R.I.....	41.4	26.4	860	102.6	78.4	1,198	13.4	9.0	266	12.9	14.6
S.O.....	28.1	18.2	916	51.2	39.5	636	11.0	8.6	200	5.8	34.2
S. Dak.....	55.7	35.2	906	204.5	160.4	658	26.4	20.2	263	47.7	35.1
Tenn.....	214.4	145.9	2,444	334.3	254.3	1,687	24.6	17.9	161	68.0	46.8
Tex.....	23.2	19.1	184	52.2	40.6	177	12.6	10.8	96	14.7	9.6
Utah.....	12.9	7.8	68	61.4	60.7	95	1.0	.5	2	24.4	.3
Vt.....	43.5	26.5	424	177.1	144.0	406	20.8	22.3	208	125.6	6.5
Va.....	76.9	58.7	440	79.3	60.3	346	23.1	17.0	131	32.0	8.4
Wash.....	23.0	14.1	126	95.9	73.0	194	23.5	17.0	357	15.2	38.5
W. Va.....	74.5	52.4	837	104.0	71.6	615	17.6	13.0	165	46.8	10.0
Wis.....	36.9	30.7	347	62.9	52.9	393	6.6	5.5	66	10.1	10.1
Wyo.....	13.7	8.1	12	64.1	47.1	13	7.5	5.2	(2)	19.4	23.5
P.R.....	12.8	6.4	32	30.1	14.5	73	-----	-----	-----	4.6	8.4

<sup>1</sup> Less than \$50,000.<sup>2</sup> Less than ½ mile.Source: Department of Commerce, Bureau of Public Roads; *Annual Report, 1960.*

## No. 746. HIGHWAY AND STREET RECEIPTS AND DISBURSEMENTS: 1940 TO 1961

[In millions of dollars. Federal and State data are for calendar years; local data for varying fiscal years. Beginning 1959, includes Alaska and Hawaii. Data for municipal places and streets include all municipalities and other political subdivisions urban in character. See also *Historical Statistics, Colonial Times to 1957*, series Q 280-309, for related but not exactly comparable data]

SOURCE AND PURPOSE	1940	1950	1955	1957	1958	1959	1960 (prel.)	1961 (est.)
<b>SOURCE OF RECEIPTS</b>								
<b>Total receipts</b> .....	<b>2,634</b>	<b>4,711</b>	<b>7,322</b>	<b>8,753</b>	<b>10,177</b>	<b>11,174</b>	<b>11,409</b>	<b>11,878</b>
Federal funds.....	773	489	782	1,440	2,433	3,242	2,945	3,267
Highway-user imposts.....	(1)	2,292	3,638	4,141	4,258	4,490	4,759	4,910
Toll receipts.....	(1)	116	270	358	397	470	494	520
Property taxes and general revenues.....	(1)	1,069	1,281	1,419	1,503	1,668	1,754	1,831
Miscellaneous.....	(1)	93	166	195	234	235	226	216
Bond issue proceeds.....	(1)	652	1,185	1,200	1,352	1,069	1,231	1,134
<b>Federal Government funds</b> .....	<b>773</b>	<b>489</b>	<b>782</b>	<b>1,440</b>	<b>2,433</b>	<b>3,242</b>	<b>2,945</b>	<b>3,267</b>
Expended under Bureau of Public Roads.....	169	448	719	1,312	2,288	3,111	2,800	3,119
Other Federal funds.....	604	41	63	128	145	131	145	148
<b>State governments</b> .....	<b>1,234</b>	<b>2,841</b>	<b>4,594</b>	<b>5,216</b>	<b>5,616</b>	<b>5,668</b>	<b>6,010</b>	<b>6,192</b>
Highway-user imposts <sup>2</sup> .....	1,076	2,270	3,578	4,056	4,192	4,422	4,690	4,840
Toll receipts.....	31	72	209	290	325	306	415	434
Property taxes and general revenues.....	7	75	96	75	91	92	99	104
Miscellaneous.....	11	24	65	93	95	89	90	90
Bond issue proceeds <sup>3</sup> .....	109	400	640	702	913	669	716	634
<b>Counties and other local rural units</b> .....	<b>280</b>	<b>542</b>	<b>796</b>	<b>785</b>	<b>865</b>	<b>877</b>	<b>993</b>	<b>998</b>
Highway-user imposts.....	2	4	17	4	5	5	5	5
Toll receipts.....	3	12	15	16	19	19	20	23
Property taxes and general revenues.....	267	408	525	586	642	687	711	748
Miscellaneous.....	10	30	48	43	60	66	72	72
Bond issue proceeds <sup>3</sup> .....	90	204	123	140	100	185	150	150
<b>Municipal places</b> .....	<b>347</b>	<b>839</b>	<b>1,150</b>	<b>1,312</b>	<b>1,263</b>	<b>1,387</b>	<b>1,461</b>	<b>1,511</b>
Highway-user imposts.....	(1)	20	56	68	62	63	64	61
Toll receipts.....	(1)	32	46	52	53	55	59	63
Property taxes and general revenues.....	(1)	586	660	758	770	889	944	979
Miscellaneous.....	(1)	39	53	59	79	80	64	54
Bond issue proceeds <sup>3</sup> .....	(1)	162	335	375	299	300	330	350
<b>PURPOSE OF DISBURSEMENT</b>								
<b>Total disbursements</b> .....	<b>2,496</b>	<b>4,473</b>	<b>7,374</b>	<b>9,324</b>	<b>10,315</b>	<b>10,984</b>	<b>10,731</b>	<b>11,584</b>
Capital outlay.....	1,457	2,296	4,337	5,643	6,326	6,775	6,388	7,008
Maintenance.....	612	1,419	1,872	2,200	2,371	2,459	2,608	2,698
Administration <sup>4</sup> .....	122	301	458	628	725	772	806	841
Interest.....	190	135	274	324	350	371	381	406
Obligations retired.....	115	322	493	529	543	607	598	631
<b>Federal expenditures not classified by system<sup>5</sup></b> .....	<b>30</b>	<b>58</b>	<b>95</b>	<b>155</b>	<b>160</b>	<b>156</b>	<b>178</b>	<b>180</b>
<b>State highways<sup>6</sup></b> .....	<b>1,134</b>	<b>2,557</b>	<b>4,670</b>	<b>6,121</b>	<b>6,868</b>	<b>7,410</b>	<b>6,991</b>	<b>7,730</b>
Capital outlay.....	636	1,648	3,300	4,391	5,008	5,402	4,882	5,512
Maintenance.....	224	514	693	830	886	923	1,009	1,044
Administration <sup>4</sup> .....	81	192	297	412	467	505	535	562
Interest.....	78	60	139	231	255	272	275	297
Obligations retired <sup>7</sup> .....	115	143	191	257	252	308	290	315
<b>County and local rural roads</b> .....	<b>765</b>	<b>980</b>	<b>1,333</b>	<b>1,502</b>	<b>1,602</b>	<b>1,654</b>	<b>1,711</b>	<b>1,772</b>
Capital outlay.....	447	265	449	518	549	566	582	598
Maintenance.....	249	557	700	784	846	870	901	936
Administration <sup>4</sup> .....	18	44	64	76	81	85	90	95
Interest.....	51	31	31	32	32	34	35	37
Obligations retired <sup>7</sup> .....	83	83	89	92	94	99	103	106
<b>Municipal streets</b> .....	<b>567</b>	<b>878</b>	<b>1,276</b>	<b>1,546</b>	<b>1,685</b>	<b>1,764</b>	<b>1,851</b>	<b>1,902</b>
Capital outlay.....	344	339	508	615	656	706	755	775
Maintenance.....	139	348	479	567	614	641	671	691
Administration <sup>4</sup> .....	23	51	82	123	155	152	153	155
Interest.....	61	44	54	61	63	65	67	71
Obligations retired <sup>7</sup> .....	96	153	180	197	200	205	210	210

<sup>1</sup> Not available separately.

<sup>2</sup> Excludes amounts allocated for collection expenses and nonhighway purposes.

<sup>3</sup> Par value of long-term obligation. Premiums and discounts on sale of bonds included in miscellaneous income. Short-term notes and refunding issues not included.

<sup>4</sup> Includes engineering and equipment costs not charged to capital outlay, maintenance, highway police and safety, and miscellaneous expenditures.

<sup>5</sup> Comprises funds of other agencies expended directly by Public Roads as well as funds expended by those agencies. Expenditures for capital outlay, maintenance, and administration, included in the totals for capital outlay prior to 1950; thereafter included in the respective totals for these items.

<sup>6</sup> Includes expenditures by States on urban extensions of State highways.

<sup>7</sup> Par value of long-term obligations. Redemption premiums and discounts are included with interest payments. Redemption of short-term notes, or by refunding, is not included.

Source: Department of Commerce, Bureau of Public Roads; releases.

**No. 747. PUBLIC HIGHWAY DEBT—LONG-TERM HIGHWAY OBLIGATIONS OF STATE AND LOCAL GOVERNMENTS ISSUED, REDEEMED, AND OUTSTANDING: 1945 TO 1961**

[In millions of dollars. State data are for calendar year; local data are for varying fiscal years. Beginning 1959, includes Alaska and Hawaii. Excludes duplicated and interunit obligations except as noted. Municipal obligations include data for all municipalities and other political subdivisions urban in character. See also *Historical Statistics, Colonial Times to 1957*, series Q 279, for State obligations outstanding]

ITEM	1945 <sup>1</sup>	1950	1955	1956	1957	1958	1959	1960 (prel.)	1961 (est.)
<b>Total debt issued <sup>2</sup></b> .....	49	652	1,174	1,439	1,200	1,352	1,069	1,231	1,134
State obligations.....	11	400	646	1,087	702	913	689	716	634
County and local rural obligations.....	22	90	205	105	123	140	100	185	150
Municipal obligations.....	20	162	323	267	375	299	300	330	350
<b>Total debt redeemed <sup>3</sup></b> .....	258	322	421	438	535	543	607	598	631
State obligations.....	115	143	191	190	253	252	308	290	315
County and local rural obligations.....	87	83	89	97	92	94	99	103	106
Municipal obligations.....	78	96	141	151	190	197	200	205	210
<b>Total debt outstanding</b> .....	3,640	4,436	9,658	10,659	11,422	12,278	12,740	13,373	13,876
State obligations.....	1,638	2,006	6,619	7,496	7,945	8,641	9,002	9,428	9,747
County and local rural obligations.....	869	872	1,027	1,035	1,084	1,130	1,131	1,213	1,257
Municipal obligations.....	1,218	1,468	2,012	2,128	2,393	2,507	2,607	2,732	2,872

<sup>1</sup> Duplicated and interunit obligations have been excluded from totals only.

<sup>2</sup> Excludes refunding issues.

<sup>3</sup> Excludes redemptions by refunding.

Source: Department of Commerce, Bureau of Public Roads; releases.

**No. 748. STATE-HIGHWAY SYSTEMS—EXISTING MILEAGE, MILEAGE BUILT, FUNDS AVAILABLE, AND DISBURSEMENTS: 1940 TO 1959**

[Data refer to calendar years for most States. Beginning 1959, includes Alaska and Hawaii. For definition of rural and municipal roads, see headnote, table 739. See also *Historical Statistics, Colonial Times to 1957*, series Q 255-259, for data on total mileage built by State highway departments]

ITEM	1940	1950	1955	1957	1958	1959
<b>Total mileage at end of year</b> .....	551,766	608,468	661,519	681,642	690,155	702,198
Primary rural State-highway systems.....	329,472	363,213	386,611	391,397	395,399	402,680
Non surfaced roads.....	26,991	12,007	6,303	5,362	4,552	4,355
Surfaced roads.....	302,481	351,206	380,308	386,035	390,847	398,331
Low type <sup>1</sup> .....	180,091	168,554	169,458	165,423	163,163	162,080
High type <sup>1</sup> .....	122,390	182,652	210,850	220,612	227,684	236,251
Secondary rural roads.....	195,245	209,339	222,729	231,552	234,180	236,972
Municipal extensions of State-highway systems <sup>2</sup> .....	27,049	35,916	41,912	45,226	46,869	48,890
Other State roads <sup>3</sup> .....	.....	.....	10,267	13,467	13,707	14,150
<b>Total mileage built during year by State-highway departments</b> .....	32,594	55,487	53,559	53,235	54,753	50,232
Graded and drained.....	2,207	3,364	1,545	1,798	2,071	2,287
Surfaced.....	30,387	52,123	52,014	51,437	52,682	47,945
State controlled.....	29,695	44,265	41,120	39,675	39,824	36,282
Graded and drained.....	1,423	1,784	694	374	313	185
High-type surface <sup>1</sup> .....	5,223	13,379	17,672	19,476	23,044	21,892
Low-type surface <sup>1</sup> .....	23,049	29,102	22,754	19,825	15,807	14,205
State-highway funds available <sup>4</sup> .....mil. dol.	2,038	5,068	9,547	10,469	11,216	12,301
Disbursements of State-highway funds <sup>4</sup> .....do.	1,078	3,562	6,034	7,702	8,479	9,277

<sup>1</sup> For 1940, low type was distinguished from high type by quality of surfacing material used; for 1950, also by rigidity of base; and beginning 1955, combined thickness of surface and base was an added consideration.

<sup>2</sup> Includes connecting streets not under State control. Beginning 1950, excludes streets of this type in Kentucky, Maryland, Mississippi, and District of Columbia. May include the municipal portion of a State route entering a city or town.

<sup>3</sup> Mileage of State park, forest, institutional, toll, and other roads under State control.

<sup>4</sup> Includes funds transferred to or from local units and proceeds of highway-user imposts allotted by the State treasurer for county and other local roads and streets, and nonhighway purposes. See also tables 749 and 750.

<sup>5</sup> Includes accumulated reserves.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

## No. 749. DISBURSEMENTS OF STATE HIGHWAY FUNDS, BY STATES: 1921 TO 1959

[In millions of dollars. Comprises disbursements, whether from current revenues or proceeds of loans, for construction, maintenance, interest and principal payments on highway bonds, transfers to local units, and miscellaneous disbursements. Includes transactions by State toll authorities. Beginning 1940 covers calendar years; figures for earlier years for many States represent fiscal years]

STATE	1921	1930	1940	1945	1950	1955	1957	1958	1959
United States <sup>1</sup> .....	444	1,331	1,678	1,299	3,562	6,034	7,702	8,479	9,277
Alabama.....	1	20	28	26	49	87	119	117	140
Alaska.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	23
Arizona.....	3	6	9	6	20	33	51	58	64
Arkansas.....	8	40	13	15	46	55	67	76	82
California.....	15	56	99	138	268	558	715	726	761
Colorado.....	5	11	15	12	38	56	88	99	93
Connecticut.....	6	16	23	15	38	79	292	188	180
Delaware.....	4	8	4	3	32	26	41	44	43
Dist. of Columbia.....	( <sup>3</sup> )	2	7	4	11	24	24	31	41
Florida.....	2	20	39	36	93	152	238	237	287
Georgia.....	10	17	39	24	74	109	128	151	179
Hawaii.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	25
Idaho.....	5	8	8	6	19	27	34	41	49
Illinois.....	16	53	71	53	113	229	449	563	481
Indiana.....	8	27	40	35	69	200	136	188	225
Iowa.....	19	57	33	23	79	109	140	168	179
Kansas.....	7	17	21	16	50	110	104	129	134
Kentucky.....	6	20	26	20	67	102	106	143	188
Louisiana.....	5	30	30	22	71	115	157	183	225
Maine.....	7	18	14	10	24	65	50	61	65
Maryland.....	8	20	27	19	84	138	195	168	171
Massachusetts.....	8	24	38	21	98	203	240	236	277
Michigan.....	20	48	67	50	106	249	344	344	381
Minnesota.....	7	39	31	23	65	101	123	158	179
Mississippi.....	4	11	31	28	42	75	82	99	114
Missouri.....	5	44	28	21	53	105	132	151	162
Montana.....	4	8	12	7	22	30	42	52	55
Nebraska.....	6	16	20	16	36	59	62	81	79
Nevada.....	2	3	4	2	9	15	26	26	28
New Hampshire.....	2	10	8	7	14	30	41	44	47
New Jersey.....	16	49	58	44	188	303	191	212	245
New Mexico.....	4	10	13	8	26	39	66	71	72
New York.....	39	109	199	113	304	471	598	641	781
North Carolina.....	15	26	40	29	136	141	180	173	180
North Dakota.....	2	6	7	6	22	28	41	54	60
Ohio.....	19	68	93	76	147	383	444	526	543
Oklahoma.....	7	27	24	24	73	113	130	158	149
Oregon.....	19	19	18	14	50	79	92	98	123
Pennsylvania.....	50	104	128	74	279	350	406	454	477
Rhode Island.....	2	4	8	6	14	30	31	37	37
South Carolina.....	4	23	23	22	46	57	74	92	116
South Dakota.....	5	8	9	6	20	34	42	49	57
Tennessee.....	7	56	34	32	79	108	131	153	176
Texas.....	19	65	80	67	178	282	372	450	531
Utah.....	3	5	6	6	15	23	30	46	56
Vermont.....	1	9	8	4	10	17	26	33	39
Virginia.....	7	23	28	29	76	112	222	182	163
Washington.....	10	16	40	29	78	127	160	190	181
West Virginia.....	2	24	26	27	51	64	70	84	106
Wisconsin.....	14	27	41	28	68	109	138	166	181
Wyoming.....	4	4	6	3	14	22	36	47	47

<sup>1</sup> Beginning 1959, includes Alaska and Hawaii.

<sup>2</sup> Not available.

<sup>3</sup> Less than \$500,000.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

# NO. 750. STATE HIGHWAY FUNDS AVAILABLE, BY SOURCE AND DISBURSEMENTS, BY PURPOSE, BY STATES: 1959

[In millions of dollars. Comprises receipts and disbursements of all State imposts on highway users, all other funds available to State highway departments, and State funds other than those of highway department which were reported as being applied to highway purposes. Includes transactions of interstate and intrastate toll authorities that are operated by State or quasi-State agencies. See also *Historical Statistics, Colonial Times to 1957*, series Q 266-278]

STATE	FUNDS AVAILABLE					DISBURSEMENTS				
	Total	Motor-vehicle fees, motor-fuel and motor-carrier taxes	Federal funds	Income from issue of bonds, notes, etc.	All other sources <sup>1</sup>	Total <sup>2</sup>	For State-administered highways <sup>3</sup>			For county and local roads and streets <sup>3</sup>
							Capital outlay, roads and bridges <sup>4</sup>	Main-tenance <sup>4</sup>	Other <sup>5</sup>	
United States.....	12,301	5,076	3,059	723	3,443	9,277	5,076	903	1,116	1,517
Alabama.....	174	81	41	20	32	140	66	13	13	45
Alaska.....	24	3	19	-----	2	23	14	6	1	-----
Arizona.....	78	37	30	-----	11	64	39	6	5	11
Arkansas.....	111	53	27	7	24	82	41	13	14	11
California.....	981	573	196	35	177	761	387	38	62	147
Colorado.....	107	53	38	6	10	93	55	8	10	16
Connecticut.....	243	64	31	101	47	180	84	18	63	10
Delaware.....	54	13	12	11	18	43	22	5	15	-----
Dist. of Columbia.....	45	21	15	-----	9	41	-----	-----	-----	33
Florida.....	404	176	64	52	112	287	169	17	33	15
Georgia.....	264	99	59	-----	106	179	78	10	11	50
Hawaii.....	51	12	5	13	21	25	15	1	4	5
Idaho.....	53	25	24	-----	4	49	28	7	4	10
Illinois.....	633	242	183	-----	208	481	266	29	46	125
Indiana.....	297	139	70	-----	88	225	108	23	23	65
Iowa.....	209	106	65	-----	38	179	93	13	6	65
Kansas.....	154	61	57	-----	36	134	77	17	14	23
Kentucky.....	218	83	70	-----	65	188	130	29	17	7
Louisiana.....	277	77	77	30	93	225	150	19	36	17
Maine.....	90	32	21	10	27	65	37	14	10	3
Maryland.....	218	84	35	27	72	171	79	10	36	42
Massachusetts.....	403	103	72	90	138	277	130	22	85	31
Michigan.....	570	213	97	75	186	380	187	28	44	114
Minnesota.....	253	98	67	12	76	179	106	17	9	40
Mississippi.....	143	57	41	11	34	114	55	8	11	37
Missouri.....	217	84	89	-----	44	162	118	26	12	2
Montana.....	63	25	30	-----	8	55	41	5	4	4
Nebraska.....	83	51	28	-----	4	79	40	8	4	25
Nevada.....	31	13	15	-----	3	28	19	4	2	2
New Hampshire.....	45	19	19	5	2	47	27	9	8	2
New Jersey.....	522	169	52	-----	301	245	78	28	58	22
New Mexico.....	80	36	37	-----	7	72	50	9	6	4
New York.....	1,280	347	222	131	580	781	459	68	85	69
North Carolina.....	242	136	66	-----	40	180	88	50	27	7
North Dakota.....	65	22	31	-----	12	60	40	5	3	11
Ohio.....	737	292	195	31	219	543	311	32	67	123
Oklahoma.....	175	95	49	-----	31	149	72	11	12	38
Oregon.....	149	66	52	-----	31	124	69	13	15	22
Pennsylvania.....	633	246	143	10	234	477	270	63	98	39
Rhode Island.....	47	22	10	-----	15	37	16	5	6	4
South Carolina.....	152	62	49	6	35	116	70	15	17	7
South Dakota.....	63	25	25	-----	13	57	36	6	3	12
Tennessee.....	186	110	57	10	9	176	92	10	10	55
Texas.....	586	320	177	-----	89	531	336	58	27	34
Utah.....	65	26	35	-----	4	56	42	5	4	3
Vermont.....	38	16	15	10	-----	39	22	5	4	7
Virginia.....	193	100	59	-----	34	163	88	35	27	8
Washington.....	211	104	51	15	41	181	84	19	21	32
West Virginia.....	119	55	45	5	14	106	70	21	14	-----
Wisconsin.....	207	114	60	-----	33	181	86	17	8	59
Wyoming.....	58	16	32	-----	10	47	36	5	2	-----

<sup>1</sup> Balances from 1958, totaling \$2,758,925,000, and miscellaneous current revenues, totaling \$684,434,000.

<sup>2</sup> Includes disbursements not shown separately and not elsewhere included: For collection and administration of highway-user revenues, \$200,960,000; for nonhighway purposes, \$463,573,000.

<sup>3</sup> Expenditures on county roads under State control in Ala. (8 counties), Del., N. C., Va. (all except 2 counties), and W. Va. included with those for State-administered highways.

<sup>4</sup> Includes some administration, engineering, and miscellaneous disbursements.

<sup>5</sup> Disbursements for administration, engineering, and miscellaneous; State highway police and safety; bond interest; and bond retirement.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics, 1959*.

## No. 751. FEDERAL AND STATE GASOLINE TAX, BY STATES: 1940 TO 1960

[Cents per gallon. Where 2 figures appear in a cell, the first is tax in effect at beginning of year, the last is tax at end of year. See also *Historical Statistics, Colonial Times to 1957*, series Q 328-329]

STATE	1940	1950	1955	1959	1960 <sup>1</sup>	STATE	1940	1950	1955	1959	1960 <sup>1</sup>
Federal tax	1-1.5	1.5	2	3-4	4	Missouri	2	2	3	3	3
State average <sup>2</sup>	3.96	4.65	5.35	5.86	5.94	Montana	5	6	6-7	5.6	5.6
Alabama	6	6	6-7	7	7	Nebraska	5	6-5	6	7	7
Alaska	(3)	2	2-5	5	5-7	Nevada	4	4.5	5.5-6	6	6
Arizona	5	5	5	5	5	New Hampshire	4	4	5	6-7	7
Arkansas	6.5	6.5	6.5	6.5	6.5	New Jersey	3	3	4	5	5
California	3	4.5	5.6	5.6	5.6	New Mexico	5	7	6	6	6
Colorado	4	6	6	6	6	New York	4	4	5.4	5.4-6	5.6
Connecticut	3	4	4-6	6	6	North Carolina	6	7	7	7	7
Delaware	4	5	5	5	5	North Dakota	4	4	5-6	6	6
Dist. of Col.	2	4	6	6	6	Ohio	4	4	5	5-7	7
Florida	7	7	7	7	7	Oklahoma	4	6.5	6.5	6.5	6.5
Georgia	6	7	6-5.5	6.5	6.5	Oregon	5	6	6	6	6
Hawaii	4	4	4-5	5.5	5.5	Pennsylvania	4	5	5-6	5	5
Idaho	5.1	6	6	6	6	Rhode Island	3	4	4	6	4.6-7
Illinois	3	3	5	5	5	South Carolina	6	6-7	7	7	7
Indiana	4	4	4	6	6	South Dakota	4	4	5	5.6	5.6
Iowa	3	4	5-6	5.6	5.6	Tennessee	7	7	7	7	7
Kansas	3	5	5	5.5	5.5	Texas	4	4	5.4-5	5.5	5.5
Kentucky	5	7	7	7	7	Utah	4	4	5	6	6
Louisiana	7	9	7	7	7	Vermont	4	5	5.5-5.5	5.5	5.5
Maine	4	6	6-7	7	7	Virginia	5	6	6	7.6	4.7-6-7
Maryland	4	5	6	6	6	Washington	5	6.5	6.5	6.5	6.5
Massachusetts	3	3	5	5.5	5.5	West Virginia	5	5	5-6	6-7	7
Michigan	3	3	4.5-6	6	6	Wisconsin	4	4	4-6	6	6
Minnesota	4-3	5	5	5	5	Wyoming	4	4	5	5	5
Mississippi	6	6-7	5.7	5.7	5.7						

<sup>1</sup> As of August 1.

<sup>2</sup> Weighted average, based on net gallons taxed. Beginning 1959, includes Alaska and Hawaii.

<sup>3</sup> No tax.

<sup>4</sup> Tax rates changed as follows during 1960: Alaska 5 to 7 cents, April 1; Rhode Island 6 to 7 cents, June 1; Virginia 6 to 7 cents, July.

<sup>5</sup> Diesel fuel tax differs from gasoline tax.

<sup>6</sup> State tax rate is 8 cents in Hawaii County and 5 cents in the other counties.

<sup>7</sup> Trucks or combinations with more than 2 axles pay motor-fuel tax rates of 9 cents per gallon in Kentucky and Virginia. (Prior to July 1, 1960, the tax in Virginia was 8 cents.)

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

## No. 752. MOTOR FUEL CONSUMPTION, BY USE: 1940 TO 1959

[In millions of gallons. Beginning 1959, includes Alaska and Hawaii. Gasoline and all other fuels under State motor fuel laws. Excludes exports and Federal purchases for military use. Obtained chiefly from reports of State authorities. See also *Historical Statistics, Colonial Times to 1957*, series Q 318-320, for highway and non-highway usage]

ITEM	1940	1945	1950	1954	1955	1956	1957	1958	1959
Total consumption <sup>1</sup>	24,404	22,304	40,280	49,636	53,116	55,711	57,443	59,087	62,226
Highway	22,001	19,149	35,653	44,366	47,731	50,214	51,865	53,418	56,332
Nonhighway	2,037	2,898	4,178	4,753	4,835	4,935	5,090	5,171	5,384
Passenger vehicles	16,759	14,023	25,037	31,670	34,319	36,128	37,594	38,904	40,879
Passenger cars <sup>2</sup>	16,323	13,323	24,305	30,913	33,548	35,326	36,769	38,095	40,056
Buses <sup>3</sup>	436	700	732	755	771	802	825	800	823
Trucks and combinations	5,156	5,055	10,566	12,541	13,308	13,978	14,271	14,514	15,453
Average gallons consumed per vehicle	680	617	728	757	759	768	767	776	782
Passenger cars <sup>2</sup>	594	517	603	639	644	651	652	664	667
Buses <sup>3</sup>	3,050	4,300	3,752	3,240	3,021	3,145	3,125	2,996	3,117
Trucks and combinations	1,095	1,020	1,257	1,289	1,278	1,302	1,302	1,301	1,326
Average mileage per gallon consumed per vehicle	13.79	13.05	12.87	12.69	12.67	12.54	12.47	12.44	12.43
Passenger cars <sup>2</sup>	15.29	14.95	14.95	14.58	14.53	14.37	14.40	14.30	14.30
Buses <sup>3</sup>	6.10	5.48	5.57	5.84	5.85	5.74	5.32	5.33	5.27
Trucks and combinations	9.68	9.08	8.57	8.44	8.37	8.31	7.93	7.96	7.96

<sup>1</sup> Includes losses allowed for evaporation, handling, etc.

<sup>2</sup> Includes taxicabs.

<sup>3</sup> Includes school buses.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

# No. 753. MOTOR-VEHICLE OPERATORS AND CHAUFFEURS LICENSES, BY STATES: 1958 AND 1959

[In thousands. Incomplete data for some States]

STATE	PERIOD FOR WHICH ISSUED <sup>1</sup>		1958			1959		
	Operators	Chauffeurs	Li- censes in force <sup>2</sup>	Licenses issued		Li- censes in force <sup>2</sup>	Licenses issued	
				Opera- tors	Chauf- eurs <sup>3</sup>		Opera- tors	Chauf- eurs <sup>3</sup>
United States <sup>4</sup>			81,537	34,721	4,483	84,498	36,993	4,249
Alabama	2 years	Not required	1,331	622		1,324	646	
Alaska	2 years	Not required	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	109	72	
Arizona	3 years	2 years	644	208	34	716	234	45
Arkansas	1 year	1 year	779	750	29	799	768	31
California	4 years	4 years	7,622	1,970	115	8,155	2,155	129
Colorado	3 years	3 years	1,036	302	70	1,077	293	30
Connecticut	2 years	1 year	<sup>6</sup> 1,253	694	9	<sup>6</sup> 1,396	702	10
Delaware	( <sup>7</sup> )	( <sup>7</sup> )	217	90	20	225	51	3
District of Columbia	3 years	Not required	<sup>6</sup> 337	113	( <sup>5</sup> )	340	121	
Florida	1 year	1 year	2,432	2,153	279	2,553	2,261	292
Georgia	( <sup>9</sup> )	( <sup>9</sup> )	1,716	964	82	1,729	967	86
Hawaii	Indefinite	1 year	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	39	3
Idaho	2 years	2 years	391	157	19	403	206	20
Illinois	3 years	1 year	4,534	1,635	301	4,538	809	297
Indiana	2 years	1 year	2,293	1,822	242	2,299	740	238
Iowa	2 years	1 year	1,453	662	161	1,471	655	153
Kansas	2 years	2 years	1,348	621	19	1,394	649	105
Kentucky	2 years	1 year	<sup>6</sup> 1,184	642	37	<sup>6</sup> 1,250	608	5
Louisiana	2 years	1 year	1,252	519	128	1,275	622	133
Maine	1 year	Not required	425	426		442	442	
Maryland	Indefinite	2 years	<sup>6</sup> 1,337	388	51	<sup>6</sup> 1,410	406	48
Massachusetts	2 years	1 year	<sup>6</sup> 2,203	831	( <sup>5</sup> )	<sup>6</sup> 2,506	1,675	( <sup>5</sup> )
Michigan	3 years	1 year	3,959	1,121	238	4,040	1,337	241
Minnesota	4 years	1 year	<sup>6</sup> 1,709	362	<sup>10</sup> 194	<sup>6</sup> 1,756	456	<sup>10</sup> 199
Mississippi	1 or 2 years	1 or 2 years	726	370	23	723	404	32
Missouri	3 years	1 year	1,970	601	152	1,987	943	160
Montana	2 years	2 years	355	174	19	353	143	16
Nebraska	2 years	Not required	855	117		888	771	
Nevada	2 years	1 year	150	47	13	156	95	14
New Hampshire	2 years	2 years	280	154	63	298	76	5
New Jersey	1 or 3 years	1 year	<sup>6</sup> 2,462	1,709	<sup>8</sup> 4	<sup>6</sup> 2,574	1,832	<sup>8</sup> 9
New Mexico	2 years	1 year	463	191	69	499	239	69
New York	3 years	3 years	6,683	2,555	767	6,835	1,445	364
North Carolina	4 years	1 year	1,885	463	63	1,941	496	65
North Dakota	2 years	Not required	358	29		353	330	
Ohio	3 years	3 years	4,537	614	68	4,606	1,176	113
Oklahoma	2 years	2 years	1,135	507	64	1,200	556	73
Oregon	2 years	1 year	<sup>6</sup> 901	462	42	<sup>6</sup> 928	466	41
Pennsylvania	1 year	Not required	5,251	5,251		5,416	5,218	
Rhode Island	2 years	2 years	399	198	11	410	189	11
South Carolina	4 years	1 year	<sup>6</sup> 1,001	119	( <sup>11</sup> )	<sup>6</sup> 1,053	51	( <sup>11</sup> )
South Dakota	4 years	Not required	415	244		390	146	
Tennessee	2 years	2 years	1,501	106	8	1,606	1,388	104
Texas	2 years	1 year	4,168	1,805	876	4,282	1,583	894
Utah	5 years	5 years	428	110	16	459	87	10
Vermont	1 year	Not required	171	171		177	177	
Virginia	3 years	1 year	1,726	491	77	1,792	502	79
Washington	2 years	Not required	1,318	684		1,405	723	
West Virginia	4 years	1 year	886	220	36	808	117	34
Wisconsin	2 years	1 year	1,849	834	71	1,894	703	73
Wyoming	3 years	1 year	204	43	13	203	103	15

<sup>1</sup> In effect in 1959.

<sup>2</sup> Estimated from data reported by States for current and previous years; no allowance made for deaths, emigration, or revocation.

<sup>3</sup> Includes public service and other special licenses that are issued to operators of vehicles for hire.

<sup>4</sup> Beginning 1959, includes Alaska and Hawaii. <sup>5</sup> Not available.

<sup>6</sup> Chauffeurs' licenses not added to operators' licenses since an operator's license is required in addition to the chauffeur's license.

<sup>7</sup> Issued for 2-year period, but drivers meeting certain requirements may obtain licenses for indefinite period.

<sup>8</sup> Special bus operators' licenses are required; number issued not available.

<sup>9</sup> Issued for 1- or 5-year period at option of applicant.

<sup>10</sup> Includes 9,083 school bus operators' licenses in 1958, and 9,399 in 1959.

<sup>11</sup> A permit to operate "For hire" vehicles is required, but the number issued is not available.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

## No. 754. MOTOR VEHICLES—SUMMARY OF SELECTED ITEMS: 1950 TO 1960

[Excludes Alaska and Hawaii]

ITEM	1950	1955	1956	1957	1958	1959	1960
SALES, EXPORTS, IMPORTS, AND SCRAPPAGE							
Passenger car factory sales, total.....1,000..	6,666	7,920	5,816	6,113	4,258	5,591	6,675
4-door sedans.....do.....	3,247	3,044	2,005	1,952	1,481	2,006	2,697
2-door sedans, coaches and coupes <sup>1</sup> .....do.....	2,794	1,691	1,136	908	705	895	1,094
"Hard-top" coupes and sedans.....do.....	267	2,169	1,824	2,073	1,200	4,459	1,517
Convertibles (except "hard-top").....do.....	208	240	199	285	194	255	305
Station wagons <sup>2</sup> .....do.....	142	759	639	890	673	913	1,059
Chassis.....do.....	9	18	14	6	5	4	3
Truck and bus factory sales.....do.....	1,337	1,249	1,104	1,107	877	1,137	1,194
Passenger cars (new), exported.....do.....	153	254	193	161	121	117	145
Passenger cars (new), imported.....do.....	21	57	108	259	431	668	444
Exports, total value.....\$1,000,000.....	794	1,307	1,616	1,465	1,226	1,280	1,406
Passenger cars (new).....do.....	179	380	331	290	258	220	235
Trucks and buses (new).....do.....	217	340	438	434	294	321	378
Rubber tires and tubes.....do.....	47	82	100	100	79	77	79
Parts and accessories (incl. used vehicles).....do.....	350	565	646	633	595	662	714
Imports of new passenger cars, value.....do.....	21	69	127	301	487	735	513
Vehicles scrapped, total.....1,000.....	3,234	4,392	4,948	4,263	4,173	( <sup>3</sup> )	( <sup>3</sup> )
Passenger cars.....do.....	2,598	3,773	4,327	3,702	3,635	( <sup>3</sup> )	( <sup>3</sup> )
Trucks and buses.....do.....	636	619	621	561	538	( <sup>3</sup> )	( <sup>3</sup> )
TIRES AND PARTS							
Tires, passenger car:							
Production.....1,000.....	78,598	97,223	85,523	93,547	83,636	102,696	1105,361
Shipments.....do.....	84,423	93,730	84,965	90,217	85,696	97,399	1105,799
Original equipment.....do.....	36,678	42,574	30,874	32,724	23,408	29,770	136,320
Replacement.....do.....	47,103	50,189	53,217	56,605	61,570	66,840	168,535
Export.....do.....	642	966	875	888	717	789	1,944
Inventory, year-end.....do.....	3,050	15,963	16,494	19,818	17,778	23,599	23,583
Tires, truck and bus:							
Production.....do.....	14,156	14,955	14,589	13,394	12,927	15,238	14,482
Shipments.....do.....	15,164	14,769	14,325	13,430	13,232	15,076	113,912
Original equipment.....do.....	4,671	4,800	4,548	4,041	3,375	4,417	3,885
Replacement.....do.....	9,705	9,057	8,894	8,544	9,226	10,015	9,250
Export.....do.....	788	912	883	845	631	644	1,777
Inventory, year-end.....do.....	743	2,815	3,378	3,408	3,161	3,355	3,957
Replacement parts and accessories, domestic sales (wholesale value) <sup>4</sup> .....\$1,000,000.....	1,882	1,806	1,776	2,009	2,025	2,264	2,375
Auto battery shipments for replacement, United States.....1,000.....	24,442	25,828	25,014	25,943	25,270	27,495	26,500
EMPLOYMENT AND PAY							
Total employment, automotive mfg.....number.....	825,200	903,800	809,900	786,300	630,800	731,600	1780,300
Average employment, production workers.....do.....	701,600	746,400	648,500	630,100	480,000	574,200	1611,500
Total payrolls, production workers.....\$1,000,000.....	2,072	3,795	3,210	3,342	2,462	( <sup>5</sup> )	( <sup>5</sup> )
Average weekly earnings.....dollars.....	73.25	97.78	94.71	98.40	99.96	110.16	114.11
Average weekly hours.....hours.....	41.2	42.7	40.3	40.0	39.2	40.8	40.7
Average hourly earnings.....dollars.....	1.778	2.29	2.35	2.46	2.55	2.70	2.81
SPECIAL MOTOR-VEHICLE TAXES <sup>6</sup>							
Special motor-vehicle taxes, total.....\$1,000,000.....	4,342	7,280	7,829	8,748	8,538	9,636	10,617
Federal excise.....do.....	1,479	2,736	2,858	3,513	3,132	3,761	4,487
State gross registration receipts.....do.....	948	1,483	1,592	1,661	1,702	1,826	1,900
State gasoline, net.....do.....	1,667	2,543	2,792	2,807	2,982	3,265	3,400
Special city and county <sup>7</sup> .....do.....	90	228	247	285	295	304	314
Bridge, tunnel, ferry, road tolls.....do.....	157	291	339	382	427	480	516
TRAFFIC DEATHS							
Traffic deaths, total <sup>8</sup> .....number.....	34,763	38,426	39,628	38,702	36,981	37,910	438,200
Noncollision accidents.....do.....	10,600	12,100	13,000	11,800	11,600	11,800	12,000
Collision accidents:							
With other motor vehicles.....do.....	11,650	14,500	15,200	15,400	14,200	14,900	14,800
With pedestrians.....do.....	9,000	8,200	7,900	7,850	7,650	7,850	7,950
With other vehicles or objects.....do.....	3,490	3,605	3,528	3,629	3,505	3,358	3,435
Traffic death rates:							
Per 100,000 population.....do.....	23.0	23.4	23.7	22.7	21.3	21.5	21.2
Per 10,000 motor vehicles.....do.....	7.1	6.1	6.1	5.8	5.4	5.3	5.2
Per 100 million vehicle miles.....do.....	7.6	6.4	6.3	6.0	5.6	5.4	5.3

<sup>1</sup> Includes business coupes. <sup>2</sup> Excludes station wagons on commercial vehicle chassis. <sup>3</sup> Not available.<sup>4</sup> Preliminary. <sup>5</sup> Government purchases not included. Estimates based on Federal excise tax receipts.<sup>6</sup> Special taxes on motor-vehicle users; excludes income and property taxes on motor vehicle, body, parts and tire factories; garages; dealers; repair shops; terminal and truck, including taxicab and bus, operating companies.<sup>7</sup> Includes amounts collected on use of vehicles over 26,000 lbs. as follows: 1956, \$1,513,000 (tax effective Oct. 1); 1957, \$54,999,000; 1958, \$32,820,000; 1959, \$35,855,000; 1960, \$44,000,000.<sup>8</sup> Beginning 1957, includes parking meter revenues.<sup>9</sup> Totals do not equal the sum of the various types because the estimates were generally made only to the nearest 10 deaths, and to the nearest 50 deaths for certain types.Source: Automobile Manufacturers Association, Detroit, Mich.; *Automobile Facts and Figures*.



# Motor Vehicles

557

## No. 755. MOTOR-VEHICLE TRAVEL, BY TYPE OF VEHICLE AND CLASS OF ROAD: 1940 TO 1959

[In millions of vehicle-miles, except averages. Beginning 1959, estimates for total United States travel based on automatic traffic recorder data from 50 States and District of Columbia. Urban travel includes all travel in municipalities and most travel in urbanized areas. All other travel is classed as rural. See also *Historical Statistics, Colonial Times to 1957*, series Q 321-327]

ITEM	1940	1945	1950	1955	1956	1957	1958	1959
<b>Total travel</b> .....	302,188	250,173	458,246	603,434	627,843	647,004	664,653	700,478
<b>CLASS OF ROAD</b>								
Rural.....	152,195	120,012	239,998	336,153	352,379	350,305	357,584	376,688
Main rural roads.....	109,861	85,921	174,350	227,988	237,748	259,996	265,197	280,393
Local rural roads.....	42,334	34,091	65,648	108,165	114,631	90,309	92,387	96,295
Urban.....	149,993	130,161	218,248	267,281	275,464	296,699	307,069	323,790
<b>TYPE OF VEHICLE</b>								
Passenger vehicles.....	252,257	204,232	367,694	492,047	511,743	533,798	549,183	577,324
Rural.....	121,988	92,831	183,218	265,667	278,287	277,235	283,454	297,369
Urban.....	130,269	111,401	184,476	226,380	233,456	256,563	265,729	279,931
Passenger cars <sup>1</sup> .....	249,600	200,398	363,613	487,540	507,138	529,405	544,873	572,976
Rural.....	120,540	90,926	181,095	263,088	275,686	275,034	281,253	295,153
Urban.....	129,060	109,472	182,518	224,452	231,452	254,371	263,620	277,823
All buses.....	2,657	3,834	4,081	4,507	4,605	4,393	4,310	4,348
Rural.....	1,448	1,905	2,123	2,579	2,601	2,201	2,201	2,240
Urban.....	1,209	1,929	1,958	1,928	2,004	2,192	2,109	2,108
Commercial buses.....	1,944	3,192	3,271	3,256	3,271	3,041	2,914	2,886
Rural.....	808	1,328	1,394	1,452	1,417	1,098	1,060	1,044
Urban.....	1,136	1,864	1,877	1,804	1,854	1,943	1,854	1,842
School and nonrevenue buses.....	713	642	810	1,251	1,334	1,352	1,396	1,462
Rural.....	640	577	729	1,127	1,184	1,103	1,141	1,196
Urban.....	73	65	81	124	150	240	255	266
Trucks and combinations.....	49,931	45,941	90,552	111,387	116,100	113,206	115,470	123,154
Rural.....	30,207	27,181	56,780	70,486	74,092	73,070	74,130	79,295
Urban.....	19,724	18,760	33,772	40,901	42,008	40,136	41,340	43,859
<b>AVERAGE MILES PER VEHICLE</b>								
Passenger vehicles.....	9,129	7,870	9,078	9,400	9,389	9,425	9,524	9,559
Passenger cars <sup>1</sup> .....	9,080	7,771	9,020	9,359	9,348	9,391	9,494	9,529
All buses.....	18,580	23,521	20,910	17,658	18,059	16,640	15,963	15,408
Commercial buses.....	36,000	38,458	36,600	34,035	34,432	35,776	34,690	37,074
School and nonrevenue buses.....	8,011	8,025	7,775	7,836	8,338	7,553	7,505	7,735
Trucks and combinations.....	10,626	9,270	10,776	10,697	10,813	10,328	10,348	10,552

<sup>1</sup> Includes taxicabs and motorcycles.

Source: Department of Commerce, Bureau of Public Roads; releases.

## No. 756. MOTOR VEHICLES—FACTORY SALES AND REGISTRATIONS: 1900 TO 1960

[Beginning 1959, registrations include Alaska and Hawaii. See also *Historical Statistics, Colonial Times to 1957*, series Q 310-317]

YEAR	FACTORY SALES								REGISTRATIONS <sup>3</sup> (1,000)		
	Number (1,000)			Wholesale value <sup>2</sup> (\$1,000,000)					Total	Passenger cars and taxis <sup>4</sup>	Trucks and buses <sup>4</sup>
	Total	Pas- senger cars	Trucks and buses <sup>1</sup>	Total	Passenger cars		Trucks and buses <sup>1</sup>				
					Total value	Average price	Total value	Average price			
1900.....	4	4	-----	5	5	1,169	-----	-----	8	8	-----
1910.....	187	181	6	225	215	1,189	10	1,610	469	458	10
1920.....	2,227	1,906	322	2,232	1,809	949	423	1,815	9,239	8,132	1,108
1930.....	3,363	2,787	575	2,035	1,644	590	391	679	26,750	23,035	3,715
1940.....	4,472	3,717	755	2,938	2,371	638	568	752	32,453	27,466	4,987
1945.....	725	70	656	1,239	57	823	1,182	1,803	31,035	25,793	5,242
1950.....	8,003	6,666	1,337	10,176	8,468	1,270	1,708	1,277	49,162	40,334	8,828
1954.....	6,601	5,559	1,042	9,878	8,218	1,478	1,660	1,593	58,510	48,461	10,049
1955.....	9,169	7,920	1,249	14,474	12,453	1,572	2,021	1,618	62,694	52,136	10,553
1956.....	6,921	5,816	1,104	11,832	9,765	1,677	2,077	1,881	65,154	54,201	10,953
1957.....	7,221	6,113	1,107	13,251	11,198	1,832	2,083	1,881	67,131	55,906	11,225
1958.....	5,135	4,268	877	9,740	8,010	1,881	1,730	1,973	68,299	56,871	11,428
1959.....	6,728	5,591	1,137	12,872	10,534	1,884	2,338	2,056	71,497	59,562	11,935
1960.....	7,869	6,675	1,194	14,401	12,163	1,822	2,298	1,923	73,895	61,682	12,213

<sup>1</sup> A substantial part of the trucks and buses reported comprises chassis without body; hence, excludes the value of bodies for these chassis. Includes military trucks.

<sup>2</sup> Beginning 1940, includes value of standard equipment. <sup>3</sup> Includes publicly owned vehicles.

<sup>4</sup> Prior to 1930, buses included with passenger cars. <sup>5</sup> Preliminary estimate.

Source: Factory sales—Automobile Manufacturers Association, Detroit, Mich.; *Automobile Facts and Figures*. Registrations—Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

**No. 757. MOTOR-VEHICLE REGISTRATIONS (PASSENGER CARS, BUSES, AND TRUCKS).  
BY STATES: 1920 TO 1960**

[In thousands. Includes publicly owned vehicles. For uniformity, figures have been adjusted to a calendar-year basis as registration years in States differ. Figures represent net numbers where possible, excluding re-registrations and nonresident registrations]

STATE	1920	1925	1930	1935	1940	1945	1950	1955	1959	1960
<b>United States.....</b>	<b>9, 239</b>	<b>20, 069</b>	<b>26, 750</b>	<b>26, 546</b>	<b>32, 453</b>	<b>31, 035</b>	<b>49, 162</b>	<b>62, 694</b>	<b>71, 497</b>	<b>73, 895</b>
Alabama.....	75	196	281	249	346	366	686	1, 041	1, 221	1, 282
Alaska.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	71	81
Arizona.....	35	69	112	107	143	148	271	415	578	624
Arkansas.....	59	184	221	210	261	279	477	584	682	708
California.....	584	1, 459	2, 060	2, 177	2, 808	2, 894	4, 620	6, 189	7, 418	7, 799
Colorado.....	129	241	311	288	358	348	564	737	885	924
Connecticut.....	119	252	334	371	498	510	716	921	1, 061	1, 107
Delaware.....	18	40	57	58	73	69	108	154	185	192
District of Columbia.....	34	105	159	174	165	114	195	197	201	206
Florida.....	74	288	331	362	503	526	985	1, 616	2, 253	2, 367
Georgia.....	146	251	345	399	510	531	898	1, 239	1, 436	1, 512
Hawaii.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	214	231
Idaho.....	51	83	120	121	167	154	272	338	364	375
Illinois.....	569	1, 267	1, 646	1, 536	1, 939	1, 734	2, 651	3, 268	3, 678	3, 776
Indiana.....	333	732	880	857	1, 009	990	1, 435	1, 763	1, 983	2, 046
Iowa.....	437	662	783	705	803	701	1, 072	1, 195	1, 296	1, 325
Kansas.....	294	459	598	558	589	607	853	1, 048	1, 136	1, 160
Kentucky.....	113	263	334	352	470	442	784	1, 032	1, 161	1, 198
Louisiana.....	73	209	279	275	372	409	707	952	1, 142	1, 177
Maine.....	63	141	188	184	209	210	276	323	367	374
Maryland.....	103	238	324	349	449	462	685	938	1, 102	1, 155
Massachusetts.....	274	639	851	792	914	868	1, 280	1, 546	1, 738	1, 763
Michigan.....	413	993	1, 338	1, 254	1, 571	1, 475	2, 433	3, 114	3, 201	3, 306
Minnesota.....	324	571	736	733	879	757	1, 169	1, 365	1, 525	1, 591
Mississippi.....	68	178	239	190	264	268	484	637	692	723
Missouri.....	297	606	766	772	930	860	1, 261	1, 490	1, 744	1, 763
Montana.....	61	96	137	153	196	161	265	336	376	381
Nebraska.....	219	340	428	409	417	410	569	662	706	734
Nevada.....	10	22	30	36	46	47	77	124	162	175
New Hampshire.....	35	82	113	118	137	131	172	212	252	266
New Jersey.....	228	586	861	899	1, 100	1, 031	1, 579	2, 061	2, 307	2, 401
New Mexico.....	18	50	85	95	128	121	238	340	446	458
New York.....	676	1, 638	2, 330	2, 359	2, 775	2, 360	3, 735	4, 643	5, 011	5, 067
North Carolina.....	141	344	462	475	607	620	1, 056	1, 437	1, 641	1, 720
North Dakota.....	91	145	184	165	184	182	276	309	339	345
Ohio.....	621	1, 354	1, 773	1, 732	1, 942	1, 927	2, 795	3, 526	3, 939	4, 087
Oklahoma.....	213	427	555	508	584	512	831	1, 026	1, 143	1, 184
Oregon.....	115	218	255	299	401	421	689	802	878	919
Pennsylvania.....	570	1, 340	1, 775	1, 765	2, 168	1, 983	3, 010	3, 737	4, 177	4, 287
Rhode Island.....	50	102	137	150	189	180	251	308	332	341
South Carolina.....	94	170	221	240	343	341	579	782	887	879
South Dakota.....	120	169	206	181	198	181	290	325	349	364
Tennessee.....	102	247	374	360	461	467	858	1, 102	1, 264	1, 307
Texas.....	428	987	1, 378	1, 398	1, 716	1, 005	2, 968	3, 869	4, 351	4, 457
Utah.....	43	74	115	108	143	157	247	336	402	417
Vermont.....	32	70	87	83	95	91	121	136	149	152
Virginia.....	115	287	381	393	509	556	918	1, 243	1, 387	1, 426
Washington.....	174	332	452	463	573	626	924	1, 164	1, 329	1, 374
West Virginia.....	81	219	269	254	309	290	482	552	590	601
Wisconsin.....	293	597	788	763	913	830	1, 201	1, 386	1, 548	1, 600
Wyoming.....	24	48	62	71	88	85	145	174	198	207

<sup>1</sup> Not available.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

# Motor-Vehicle Registration

559

No. 758. MOTOR-VEHICLE REGISTRATIONS, BY STATES: 1959 AND 1960

[In thousands]

STATE	1959					1960				
	Motor vehicles				Motor-cycles (incl. official) <sup>1</sup>	Motor vehicles				Motor-cycles (incl. official) <sup>1</sup>
	Total	Private and commercial		Publicly owned vehicles, Federal, State, county, etc. <sup>1</sup>		Total	Private and commercial		Publicly owned vehicles, Federal, State, county, etc. <sup>1</sup>	
		Automobiles (incl. taxicabs)	Trucks and buses				Automobiles (incl. taxicabs)	Trucks and buses		
United States.....	71,497	59,322	11,250	925.3	565.4	73,895	61,431	11,494	971.0	575.5
Alabama.....	1,221	986	218	17.2	10.1	1,282	1,039	225	18.2	11.0
Alaska.....	71	51	18	2.1	0.8	81	59	19	2.8	0.9
Arizona.....	578	450	117	11.1	8.3	624	485	127	11.5	8.6
Arkansas.....	682	479	195	8.8	4.8	708	500	198	9.3	4.8
California.....	7,418	6,256	1,063	99.0	72.2	7,799	<sup>a</sup> 6,625	1,099	105.2	79.6
Colorado.....	885	681	190	14.3	10.4	924	710	199	15.9	11.0
Connecticut.....	1,061	932	119	10.4	6.0	1,107	975	121	11.0	6.4
Delaware.....	185	137	46	2.2	0.8	192	142	48	2.2	0.9
Dist. of Col.....	201	176	19	<sup>a</sup> 6.2	0.8	206	181	19	<sup>a</sup> 6.3	0.8
Florida.....	2,253	1,934	291	27.7	28.7	2,367	2,041	296	29.9	29.5
Georgia.....	1,436	1,152	265	18.6	8.8	1,512	1,219	274	19.4	8.7
Hawaii.....	214	182	28	3.9	3.2	231	198	29	4.0	3.5
Idaho.....	364	249	107	8.2	3.1	375	255	112	8.6	3.6
Illinois.....	3,078	3,213	432	33.2	27.9	3,776	3,302	440	34.4	26.1
Indiana.....	1,983	1,624	344	14.7	18.4	2,046	1,678	351	17.4	18.7
Iowa.....	1,296	1,047	233	15.8	10.5	1,325	1,070	239	16.2	11.1
Kansas.....	1,136	857	262	17.5	11.0	1,160	870	271	18.6	11.2
Kentucky.....	1,161	918	229	13.9	6.7	1,198	948	235	14.9	6.9
Louisiana.....	1,142	908	220	14.2	8.3	1,177	937	225	15.1	8.1
Maine.....	367	290	72	4.9	1.8	374	299	70	5.0	1.9
Maryland.....	1,102	953	140	9.4	5.8	1,155	1,003	142	9.9	5.9
Massachusetts.....	1,738	1,539	176	22.4	8.0	1,793	1,559	181	23.5	10.0
Michigan.....	3,201	2,787	380	33.8	36.3	3,306	2,883	388	35.3	32.6
Minnesota.....	1,525	1,245	261	18.7	11.6	1,591	1,302	271	18.5	12.3
Mississippi.....	692	504	176	12.4	3.3	723	527	183	13.4	3.4
Missouri.....	1,744	1,411	317	15.9	9.7	1,793	1,415	332	16.9	10.0
Montana.....	376	256	112	7.4	2.3	381	260	114	7.1	2.6
Nebraska.....	706	535	163	8.5	5.3	734	553	171	9.2	5.4
Nevada.....	162	123	35	4.0	2.5	175	133	37	4.2	3.1
New Hampshire.....	252	204	41	6.5	2.0	256	208	41	6.9	2.0
New Jersey.....	2,307	2,020	258	29.3	12.7	2,401	2,115	261	24.4	12.4
New Mexico.....	446	326	113	7.4	7.1	458	335	115	8.5	7.4
New York.....	5,011	4,472	479	60.4	17.7	5,067	4,492	509	65.7	16.1
North Carolina.....	1,641	1,308	297	36.1	6.1	1,720	1,374	308	38.9	6.2
North Dakota.....	339	227	108	4.4	1.2	345	231	109	5.0	1.5
Ohio.....	3,930	3,478	422	39.5	41.2	4,087	3,625	422	40.6	38.7
Oklahoma.....	1,143	851	275	16.4	12.6	1,184	878	288	17.3	13.0
Oregon.....	878	700	160	17.7	7.4	919	737	164	18.0	8.8
Pennsylvania.....	4,177	3,587	548	42.1	28.3	4,287	3,713	530	44.0	29.0
Rhode Island.....	332	293	36	3.1	1.7	341	301	36	3.2	1.8
South Carolina.....	887	724	146	16.9	7.0	879	718	143	17.7	4.7
South Dakota.....	349	252	91	6.2	2.3	354	255	93	5.7	2.4
Tennessee.....	1,264	1,028	217	18.6	9.5	1,307	1,067	221	19.1	10.4
Texas.....	4,351	3,435	862	54.0	47.1	4,457	3,524	877	55.2	47.0
Utah.....	402	316	79	7.3	2.8	417	330	80	7.5	3.4
Vermont.....	149	119	28	2.2	1.2	152	122	28	2.3	1.2
Virginia.....	1,387	1,156	209	21.7	7.1	1,426	1,190	214	22.4	6.6
Washington.....	1,329	1,070	234	24.7	6.4	1,374	1,102	244	27.7	6.8
West Virginia.....	590	467	113	9.4	3.3	601	475	114	11.0	3.1
Wisconsin.....	1,548	1,281	246	20.9	11.8	1,600	1,329	249	21.8	12.5
Wyoming.....	198	133	60	4.4	1.5	207	140	63	4.7	1.8

<sup>1</sup> Excludes vehicles owned by military services.

<sup>2</sup> Includes an unspecified number of commercial-type vehicles under 3,000 pounds that cannot be segregated.

<sup>a</sup> Includes 2,306 automobiles of the diplomatic corps for 1959, and 2,268 for 1960.

Source: Department of Commerce, Bureau of Public Roads; annual report, *Highway Statistics*.

## No. 759. AUTOMOBILE OWNERSHIP, AGE, AND FINANCING: 1948 TO 1960

[Excludes Alaska and Hawaii. For definitions of families and spending units, see headnotes, tables 427 and 434, respectively]

ITEM	1948	1950	1955	1956	1957	1958	1959	1960
Total number of families in U.S. <sup>1</sup> .....millions..	42.5	45.7	49.3	50.4	51.2	52.0	52.6	53.4
Total owning automobiles.....percent.....	54	60	71	72	75	74	74	77
Total number of spending units in U.S. <sup>1</sup> .....millions..	49.0	52.6	54.3	55.0	56.1	56.9	55.9	57.1
Total owning automobiles <sup>2</sup> .....percent.....	50	55	67	70	72	70	71	74
Automobiles owned, by age: <sup>3</sup>								
Less than 2 years old.....do.....		17	12	16	14	12	10	14
2 and 3 years old.....do.....		19	22	21	24	25	23	20
4, 5, 6, and 7 years old.....do.....		6	43	41	40	37	38	41
8 years old and over.....do.....		58	23	22	22	26	28	25
Total automobile purchasers <sup>2</sup> .....millions..	8.6	12.8	15.5	13.8	12.8	12.6	13.5	
New car.....do.....	3.1	5.3	6.1	5.2	4.4	3.9	5.0	
Average price paid.....dollars..	2,130	2,220	2,940	3,070	3,230	2,990	3,150	
Used car.....millions..	5.5	7.5	9.4	8.6	8.4	8.7	8.5	
Average price paid.....dollars..	880	730	780	800	900	850	1,020	
Method of financing by purchasers: <sup>2</sup>								
All passenger-car buyers <sup>4</sup> .....percent.....	100	100	100	100	100	100	100	(4)
Full cash (including trade-in allowance).....do.....	59	47	38	36	38	43	33	
Installment credit and other borrowing.....do.....	39	52	60	61	60	56	61	
New-passenger-car buyers <sup>5</sup> .....do.....	100	100	100	100	100	100	100	
Full cash (including trade-in allowance).....do.....	66	54	39	34	34	36	33	
Installment credit and other borrowing.....do.....	33	46	60	63	65	63	66	
Used-passenger-car buyers <sup>6</sup> .....do.....	100	100	100	100	100	100	100	
Full cash (including trade-in allowance).....do.....	55	41	37	38	39	45	41	
Installment credit and other borrowing.....do.....	42	57	60	60	58	54	57	

<sup>1</sup> At time of survey, early in year.<sup>2</sup> Covers spending units buying cars during year and still owning them at survey time (January-February of following year). <sup>3</sup> Age is determined by subtracting model year from year of survey.<sup>4</sup> Not available. <sup>5</sup> Includes buyers from whom method of financing was not ascertained. Beginning 1958, such buyers were assigned to either the cash or credit group; prior to that, the data shown for cash and credit buyers reflect only those buyers who reported method of financing.Source: Based on data from various Surveys of Consumer Finances, conducted by Survey Research Center of The University of Michigan. Prior to 1959, sponsored by Board of Governors of Federal Reserve System and published periodically in *Federal Reserve Bulletin*.

## No. 760. AUTOMOBILE INSURANCE—PREMIUMS WRITTEN AND LOSSES PAID, BY TYPE: 1950 TO 1959

[In millions of dollars. Beginning 1956, includes Alaska and beginning 1957, includes Hawaii. 1950, net basis; 1953 to 1958, direct writing basis, and beginning 1959, direct premiums earned and direct losses incurred]

YEAR	TOTAL INSURANCE			LIABILITY, BODILY INJURY			LIABILITY, PROPERTY DAMAGE <sup>1</sup>			PHYSICAL DAMAGE <sup>2</sup>		
	Premiums written	Losses paid	Percent losses paid of premium written	Premiums written	Losses paid	Percent losses paid of premium written	Premiums written	Losses paid	Percent losses paid of premium written	Premiums written	Losses paid	Percent losses paid of premium written
1950.....	2,625	1,069	40.7	931	396	42.5	482	231	47.9	1,212	442	36.5
1953.....	4,165	1,810	43.5	1,562	661	42.3	833	374	44.9	1,770	775	43.8
1954.....	4,175	1,869	44.8	1,642	746	45.4	877	387	44.1	1,656	730	44.4
1955.....	4,644	2,122	45.7	1,735	820	47.3	896	415	46.3	2,013	887	43.6
1956.....	4,541	2,363	52.0	1,899	923	48.6	925	488	52.8	1,717	952	55.4
1957.....	5,037	2,714	53.9	2,180	1,141	52.3	989	541	54.7	1,868	1,032	55.2
1958.....	5,404	2,846	52.7	2,432	1,280	52.6	1,087	572	52.6	1,885	994	52.7
1959.....	6,060	3,445	56.8	2,596	1,615	62.2	1,185	655	55.3	2,279	1,175	51.6

<sup>1</sup> Covers real property against damage by autos. <sup>2</sup> Covers auto fire, theft, collision, and comprehensive.Source: The Spectator, Philadelphia, Pa.; *Insurance Yearbook*, Fire and Casualty Volume; and beginning 1953, *Insurance by States Volume*.

## No. 761. SPEED OF MOTOR VEHICLES: 1945 TO 1960

[Excludes Alaska and Hawaii. Based on actual speed of each vehicle recorded on tangent sections of main rural highways during off-peak hours]

ITEM	1945 <sup>1</sup>	1950	1952	1953	1954	1955	1956	1957	1958	1959	1960
Number of vehicles recorded.....1,000.....	96	280	341	241	236	395	381	344	515	396	294
Average speed, all vehicles.....m. p. h.....	44.0	47.6	49.5	49.7	49.7	50.7	50.5	51.4	51.7	52.0	52.6
Passenger cars.....do.....	45.0	48.7	50.8	51.1	51.1	52.1	51.8	52.6	52.8	53.3	53.8
Trucks.....do.....	39.8	43.0	45.0	44.9	45.2	45.8	46.2	47.0	47.3	47.3	48.4
Buses.....do.....	45.5	49.8	52.1	51.5	51.8	52.6	52.3	52.6	53.6	53.5	55.4
Vehicles exceeding—											
40 m. p. h.....percent.....	64	77	84	85	86	87	87	89	90	90	92
45 m. p. h.....do.....	42	58	68	69	69	73	72	75	77	77	80
50 m. p. h.....do.....	24	37	45	47	46	51	49	52	55	56	58
55 m. p. h.....do.....	11	20	26	27	26	31	30	33	33	36	36
60 m. p. h.....do.....	5	8	12	13	12	15	14	15	15	16	16

<sup>1</sup> August 15 to December 31.

Source: Department of Commerce, Bureau of Public Roads.

# Motor-Vehicle Accidents

561

## No. 762. MOTOR-VEHICLE ACCIDENT DEATHS, BY AGE AND SEX: 1959

[Excludes Hawaii]

AGE	Both sexes	Male	Female	AGE	Both sexes	Male	Female
All ages.....	37,910	28,064	9,846	25 to 34 years.....	5,699	4,544	1,155
Under 5 years.....	1,842	1,024	818	35 to 44 years.....	4,659	3,552	1,107
5 to 9 years.....	1,550	1,008	542	45 to 54 years.....	4,446	3,261	1,185
10 to 14 years.....	1,169	842	327	55 to 64 years.....	3,817	2,675	1,142
15 to 19 years.....	4,379	3,369	1,010	65 years and over.....	5,727	3,876	1,851
20 to 24 years.....	4,590	3,888	702	Not stated.....	32	25	7

## No. 763. MOTOR-VEHICLE ACCIDENT DEATHS, BY PLACE OF DEATH AND PLACE OF RESIDENCE: 1950 TO 1959

STATE	BY PLACE OF DEATH						BY PLACE OF RESIDENCE					
	1950	1955	1956	1957	1958	1959	1950	1955	1956	1957	1958	1959
United States <sup>1</sup> .....	34,763	38,426	39,628	38,702	36,981	37,910	34,763	38,426	39,628	38,702	36,981	37,910
Ala.....	859	859	980	947	878	870	855	864	1,016	937	902	900
Alaska.....	22	31	28	36	33	34	(2)	(2)	(2)	(2)	(2)	32
Ariz.....	333	384	502	473	529	518	278	335	414	383	459	440
Ark.....	365	447	503	503	445	461	383	467	497	508	445	491
Calif.....	3,082	3,524	3,859	3,792	3,594	3,712	3,171	3,609	3,975	3,895	3,696	3,823
Colo.....	415	455	427	411	414	408	408	406	415	418	401	410
Conn.....	287	353	304	302	266	252	291	351	314	317	269	289
Del.....	84	112	92	101	89	90	80	104	96	92	94	79
D. C.....	102	99	86	87	83	81	134	119	104	130	100	93
Fla.....	882	1,048	1,238	1,145	1,189	1,177	842	977	1,135	1,113	1,169	1,124
Ga.....	928	1,122	1,161	1,067	1,021	1,031	906	1,094	1,120	1,031	979	987
Hawaii.....	74	64	73	96	73	89	(2)	(2)	(2)	(2)	(2)	(2)
Idaho.....	243	184	245	214	290	232	226	181	237	195	263	219
Ill.....	1,953	1,877	2,013	1,931	1,797	1,660	2,042	1,994	2,167	2,044	1,926	1,724
Ind.....	1,136	1,189	1,262	1,200	1,099	1,168	1,087	1,148	1,239	1,172	1,077	1,109
Iowa.....	620	613	700	718	630	716	634	636	681	710	650	702
Kansas.....	546	613	694	608	582	598	629	587	678	589	570	570
Ky.....	753	907	812	843	779	764	722	832	765	797	735	765
La.....	585	703	916	842	841	810	551	676	876	827	810	862
Maine.....	161	177	174	157	216	144	155	176	177	151	211	140
Md.....	480	500	544	558	517	525	442	498	531	526	485	546
Mass.....	492	621	394	421	579	593	544	675	454	463	617	620
Mich.....	1,627	2,036	1,781	1,582	1,417	1,480	1,692	2,145	1,842	1,662	1,467	1,575
Minn.....	558	613	672	727	734	688	587	632	711	750	752	737
Miss.....	525	562	586	562	574	597	519	544	565	550	548	582
Mo.....	902	1,079	1,164	1,070	1,013	1,014	942	1,084	1,112	1,060	964	1,010
Mont.....	209	244	276	221	208	255	191	239	260	226	203	248
Nebr.....	317	331	325	317	359	343	305	337	355	351	369	351
Nev.....	122	186	150	144	151	200	81	123	94	104	117	135
N. H.....	103	110	100	98	101	120	96	103	100	98	95	112
N. J.....	715	815	791	854	773	784	646	767	796	825	755	764
N. Mex.....	340	383	431	465	431	482	263	295	349	370	346	382
N. Y.....	1,961	2,163	2,160	2,208	2,114	2,269	2,098	2,310	2,313	2,344	2,260	2,334
N. C.....	1,153	1,222	1,185	1,134	1,150	1,261	1,113	1,217	1,177	1,144	1,129	1,241
N. Dak.....	105	153	172	165	169	175	111	171	170	158	175	167
Ohio.....	1,850	2,089	2,011	2,076	1,819	1,898	1,892	2,137	2,066	2,124	1,855	1,993
Okla.....	504	569	672	696	666	630	510	608	655	709	686	640
Or.....	461	434	444	489	400	506	465	434	455	473	436	480
Pa.....	1,056	1,872	1,984	1,857	1,740	1,794	1,744	1,948	2,034	1,927	1,798	1,840
R. I.....	87	94	76	84	74	90	89	88	80	85	82	89
S. C.....	627	696	729	698	590	673	633	679	664	662	573	648
S. Dak.....	198	200	191	190	236	227	196	200	193	188	221	223
Tenn.....	801	968	835	783	799	872	778	913	801	776	779	837
Tex.....	2,499	2,602	2,665	2,575	2,424	2,515	2,498	2,599	2,712	2,587	2,469	2,557
Utah.....	199	211	223	230	206	224	202	192	208	207	200	230
Vt.....	69	87	101	103	80	92	82	82	93	98	83	83
Va.....	929	909	840	933	884	875	857	830	775	842	774	806
Wash.....	534	514	572	553	610	576	548	545	599	590	667	620
W. Va.....	400	398	446	488	388	412	422	410	459	495	405	390
Wis.....	857	954	976	913	818	841	806	910	921	882	815	824
Wyo.....	149	145	177	167	149	173	117	114	148	117	110	133

<sup>1</sup> Beginning 1959, includes Alaska. <sup>2</sup> Not available.

Source of tables 762 and 763: Department of Health, Education, and Welfare, Public Health Service, National Office of Vital Statistics; annual report, *Vital Statistics of the United States*.